TEKSING TOWARD STAAR

MATHEMATICS

®

Grade 7

STAAR Blueprint Assessment 1

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TEKSING TOWARD STAAR
Mathematics STAAR Blueprint Assessment 1
Grade 7

Teacher Notes:

The following information is from the STAAR Grade 7 Mathematics Blueprint released from the TEA in Fall 2010:

- **Underlying Processes and Mathematical Tools** is not a separate reporting category. These skills will be incorporated into at least 75% of the test questions from reporting categories 1–5 and will be identified along with the content standards.
- 60% - 65% of the questions will assess Readiness Standards – 32-35 of 54 total questions
- 35% - 40% of the questions will assess Supporting Standards – 19-22 of 54 total questions
- 50 questions will be multiple choice format and 4 questions will be griddable format

This Blueprint Assessment has been designed with the above information in mind and includes 54 questions so that teachers and students will be able to have a feel for the time it will take students to complete the actual STAAR test, not including field test items.

Remember to encourage your students to utilize the Grade 7 Mathematics Reference Materials. You might consider copying the chart on cardstock for stability when students are using the rulers on the sides of the charts to answer test items.

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Grade 7
Answer Key and TEKS/STAAR Correlation

Question #	Answer	STAAR Category	TEKS		Question #	Answer	STAAR Category	TEKS
1	C	1 Supporting	7.2D/7.13A		28	J	1 Supporting	7.2C/7.14A
2	F	4 Readiness	7.9C/7.13B		29	B	3 Supporting	7.6A/7.13B
3	D	3 Supporting	7.6B/7.15A		30	J	2 Readiness	7.3A/7.13B
4	G	2 Readiness	7.3A/7.13B		31	8.15	1 Readiness	7.2B/7.13D
5	C	3 Supporting	7.6C/7.15B		32	G	4 Readiness	7.9A/7.13B
6	J	1 Supporting	7.2E/7.13A		33	C	5 Supporting	7.11A/7.14A
7	B	3 Supporting	7.6D/7.15B		34	F	1 Readiness	7.1B/7.13C
8	H	4 Supporting	7.9B/7.13B		35	D	2 Supporting	7.5A/7.15B
9	D	1 Readiness	7.1B		36	H	5 Readiness	7.11B/7.14A
10	J	3 Readiness	7.7B/7.14A		37	D	1 Readiness	7.2F/7.14A
11	A	2 Supporting	7.4B/7.13A		38	G	4 Readiness	7.9A/7.13B
12	H	5 Readiness	7.12B/7.13C		39	C	1 Supporting	7.2A/7.13C
13	C	5 Supporting	7.10B/7.15B		40	F	3 Readiness	7.7B/7.13C
14	G	3 Supporting	7.8B/7.13B		41	A	1 Supporting	7.2G/7.13B
15	A	1 Supporting	7.1C/7.13D		42	H	4 Readiness	7.9C/7.15A
16	H	2 Supporting	7.4C/7.15A		43	B	2 Supporting	7.4A/7.13A
17	D	5 Readiness	7.12B/7.13D		44	94	4 Readiness	7.9A/7.13B
18	G	2 Readiness	7.3A/7.13D		45	A	3 Supporting	7.7A/7.15B
19	15	3 Supporting	7.8C/7.13B		46	H	1 Readiness	7.2B/7.13C
20	J	2 Readiness	7.5B/7.13D		47	A	2 Readiness	7.3B/7.13A
21	C	5 Supporting	7.12A/7.15B		48	J	5 Readiness	7.11B/7.13A
22	F	1 Supporting	7.1A/7.13C		49	D	5 Readiness	7.12B/7.15B
23	D	4 Readiness	7.9A/7.13D		50	G	3 Supporting	7.8A/7.13A
24	J	2 Readiness	7.5B/7.13A		51	B	5 Supporting	7.10A/7.14A
25	130	5 Readiness	7.11B/7.14A		52	H	2 Readiness	7.3B/7.13C
26	G	4 Readiness	7.9C/7.13D		53	D	1 Readiness	7.2F/7.13B
27	D	2 Readiness	7.3B/7.15B		54	J	2 Readiness	7.5B/7.13A

TEKSING TOWARD STAAR

MATHEMATICS

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TEKSING TOWARD STAAR
Mathematics STAAR Blueprint Assessment 1
Grade 7

1. The ratio of students to mathematics teachers at Bell Middle School is 80 to 1. If there are 400 seventh grade students at Bell Middle School, how many seventh grade mathematics teachers are there?

   A 4

   B 9

   C 5

   D 8

2. Molly has a rectangular prism that is 20 centimeters high. The volume of the prism is 360 cubic centimeters. Which of the following can be used to find the area of the base of the prism?

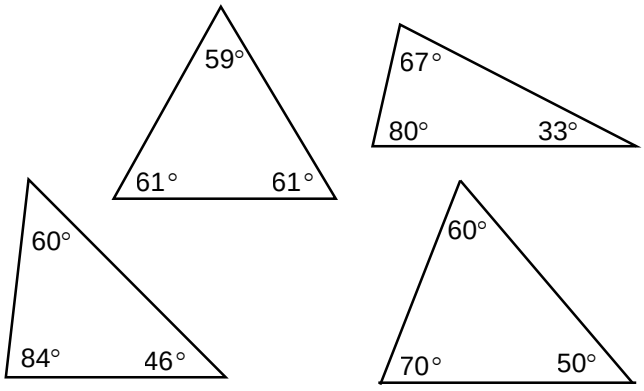
   F Divide the volume of the prism by the height of the prism.

   G Multiply the volume of the prism by the height of the prism.

   H Add the volume of the prism to the height of the prism.

   J Divide the height of the prism by the volume of the prism.

3. What statement is true about all the figures below?



   A All the figures are scalene triangles.

   B All the figures are isosceles triangles.

   C One of the figures is an obtuse triangle.

   D All the figures are acute triangles.

4. Mr. Long selected a radio for his son's birthday present. The regular price of the radio was $80, but the radio was on sale at a 25% discount. Mr. Long also had to pay an 8% sales tax on the sale price. How much did Mr. Long pay for the radio?

   F $60.00

   G $64.80

   H $86.60

   J $65.80

5. A three-dimensional figure has 15 edges and 10 vertices. Which is the figure?

   A Pentagonal pyramid

   B Triangular prism

   C Pentagonal prism

   D Rectangular prism

6. Grouping symbols are missing in the expression below. The expression needs to have a value of 84 when simplified.

$$8 \times 2 + 3 + 6 - 2^2$$

   Which of the following has a value of 84 when simplified?

   F $8 \times (2 + 3) + 6 - 2^2$

   G $8 \times 2 + 3 + (6 - 2)^2$

   H $8 \times 2 + (3 + 6 - 2)^2$

   J $8 \times (2 + 3 + 6) - 2^2$

7. Quadrilateral *ABCD* is similar to quadrilateral *EFGH*. $\angle A$ and $\angle C$ are supplementary angles. Which statement below is NOT always true?

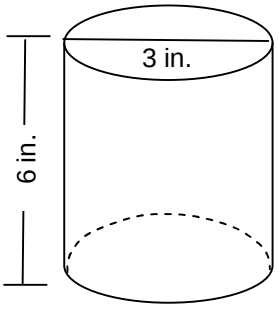
A $\angle F$ and $\angle H$ are supplementary.

B $\overline{AB} \cong \overline{EF}$

C $\angle C \cong \angle G$

D $\frac{CD}{GH} = \frac{AB}{EF}$

8. A pencil and pen holder is a cylindrical container. The container has a diameter of 3 inches and a height of 6 inches as shown below.



Which expression can be used to find the approximate volume of the pencil and pen holder?

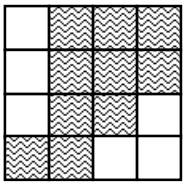
F $(3^2)(3)$

G $(3.14)(1.5)(6)$

H $(1.5^2)(6)(3.14)$

J $(3.14)(3^2)(6)$

9. Lucy shaded 10 of the 16 squares as shown below**.**



What percent of the squares did she shade?

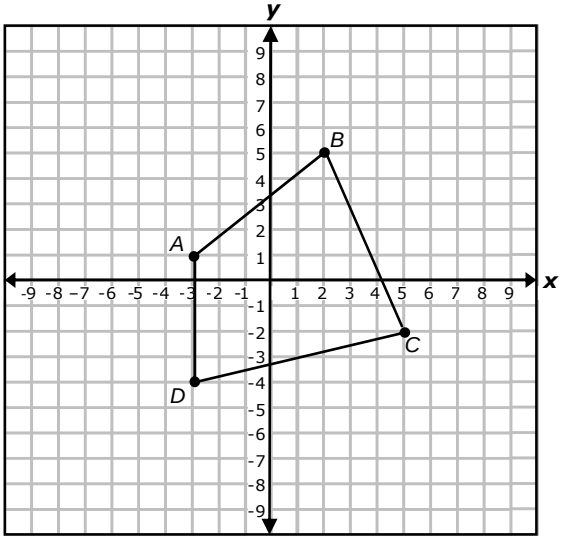
A 25%

B 37.5%

C 0.625%

D 62.5%

10. Quadrilateral *ABCD* is graphed on a coordinate plane as shown below.



Which of the following requires the least movements in whole units to translate the quadrilateral so the entire figure is contained in quadrant four?

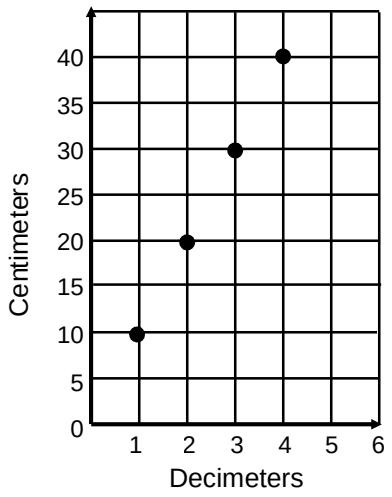
F Move 3 units right and 5 units down

G Move 4 units right and 2 units down

H Move 5 units right and 7 units down

J Move 4 units right and 6 units down

11. The graph represents the relationship between centimeters and decimeters.



Which is the best estimate of the number of centimeters in 3.5 decimeters?

A 35 centimeters

B 3.5 centimeters

C 350 centimeters

D 0.35 centimeters

12. Roger kept a record of the number of minutes he studied for his six weeks exam in five of his classes. The data is shown in the table below.

Roger's Exam Study Times

Class	Number of Minutes
Science	60
History	55
Math	45
English	45
Health	50

Roger wants to use the measure of central tendency and variability that will show he studied the greatest number of minutes. Which measure should he use?

F Mode

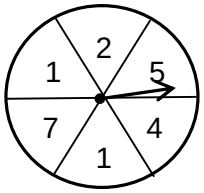
G Median

H Mean

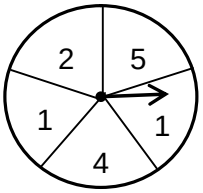
J Range

13. Rena designed a spinner with the same probability of spinning an even number or spinning a number less than 3. Which spinner best represents Rena's spinner?

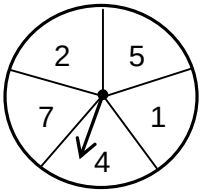
A



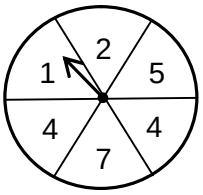
B



C

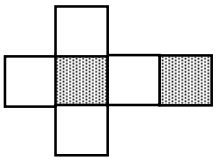


D

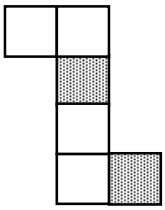


14. Carmen was given several nets for cubes. She shaded two faces that could be used as bases on each net she was given. Which of the following nets could NOT have been the one that Carmen shaded?

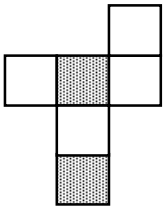
F



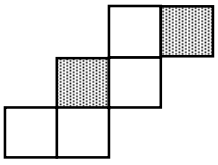
G



H



J



15. Lois was asked to draw a model to represent $\sqrt{256}$. Which of the following would be a correct model for $\sqrt{256}$?

A An array that has 16 dots in each of 16 rows

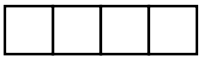
B An array that has 32 dots in each of 8 rows

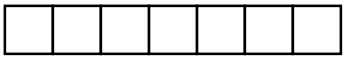
C An array that has 128 dots in each of 2 rows

D An array that has 4 dots in each of 64 rows

16. Square tiles were used to create the pattern of figures shown below.

Step 1: 

Step 2: 

Step 3: 

Which of the following describes the number of tiles that would be needed for Step n?

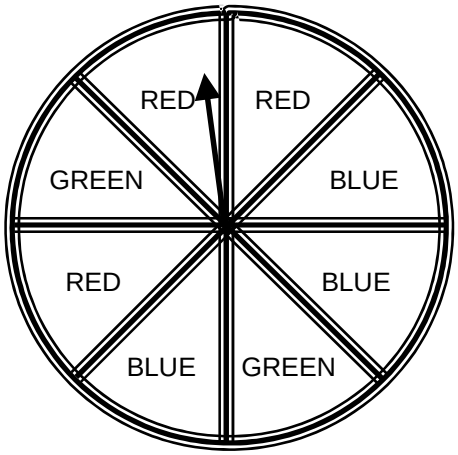
F $2n - 1$

G $2n + 1$

H $3n - 2$

J n^2

17. Andrew and his friends are playing a game that has a spinner with equal sections as shown below.



Terry must spin any color other than green on his last spin of the game because he loses the game if he spins green. What is the probability that Terry will win the game?

A $\frac{1}{4}$

B $\frac{1}{3}$

C $\frac{5}{8}$

D $\frac{3}{4}$

18. A bag of 120 colored beads contains 30% green beads, 20% red beads, 35% blue beads and 15% white beads. Which proportion can be used to find *b*, the number of blue beads in the bag?

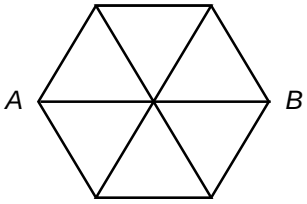
F $\frac{100}{120} = \frac{b}{35}$

G $\frac{b}{120} = \frac{35}{100}$

H $\frac{35}{b} = \frac{120}{100}$

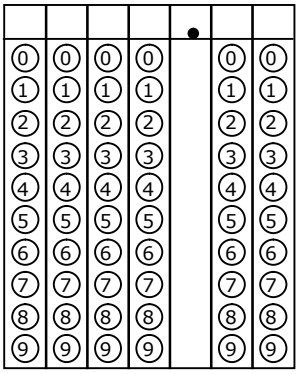
J $\frac{100}{35} = \frac{b}{120}$

19. Creative Concrete Company is designing a new patio that will be hexagonal shaped. The patio will be created by joining 6 equilateral concrete triangles as shown below.



If the distance from point *A* to point *B* is 5 feet, what is the perimeter of the patio in feet?

Record your answer on the grid below. Be sure to use the correct place value.



20. Loren bought movie tickets at a special price of 4 for $15. The maximum number she could purchase at that price was 8 tickets. Which of the following equations could be used to find the total cost, *T*, for the purchase of the maximum number of tickets?

F $T = 32 \times 15$

G $T = 8 \times 15$

H $T = 8 + 3 \times 15$

J $T = 2 \times 15$

21. Steve created a set of numbers with the following criteria.

- The set contains at least 9 numbers.
- The mean of the set is less than the range.
- The median is one more than the mode.
- The mode, median, mean, and range are consecutive numbers.

Below is the set of numbers Steve created.

{12, 14, 20, 20, 21, 23, 24, 29, 35}

Which statement best describes Steve's set?

A Steve's set does not meet the criteria because his set has a mean that is greater than the range.

B Steve's set does not meet the criteria because the set does not contain at least 9 numbers.

C Steve's set meets the criteria.

D Steve's set does not meet the criteria because the mode, median, mean and range are not consecutive numbers.

22. Jody was asked to order five numbers from greatest to least. His ordered list was:

$$45,\ 38\frac{2}{5},\ 12\frac{1}{2},\ \_\_\_\_\_,\ -23$$

Which of the following would NOT correctly replace the blank in Jody's list?

F -25

G $10\frac{1}{3}$

H $8\frac{2}{3}$

J -5

23. The area of a rectangle is 48 square units and the width of the rectangle is 16 units. Which of the following procedures can be used to find the perimeter of the rectangle?

A Divide 48 by 16, then multiply the quotient by 2. Add 16 to the product.

B Divide 16 by 48, then multiply the quotient by 2. Multiply 16 by 2. Find the sum of the two products.

C Divide 48 by 16, then multiply the quotient by 2. Multiply 16 by 2. Find the product of the two products.

D Divide 48 by 16, then multiply the quotient by 2. Multiply 16 by 2. Find the sum of the two products.

24. Jimmy wrote a situation that could be represented by the equation $5m = 20$. Which situation could be represented by $5m = 20$?

F Mary had a bag with 20 candies. She ate 5 of the candies. What is m, the number of candies she had left?

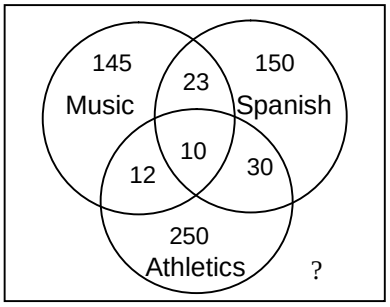
G Shirts cost \$20 on sale at the local discount store. Billy bought 5 shirts. What is m, the cost of the shirts Billy bought?

H Joan saved \$5 more than her sister, Laura. Together they saved \$20. What is m, the amount that Joan saved?

J Judy earns \$5 per hour doing chores for her mother. One week she earned \$20. What is m, the number of hours she worked for her mother that week?

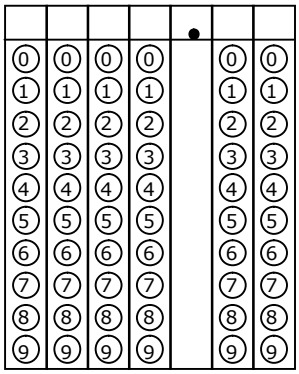
25. Gunn Middle School has 750 students. The Venn diagram below represents the number of students that registered for three of the extracurricular classes offered at Gunn Middle School.

Gunn Middle School
Extracurricular Classes



How many students are NOT registered for any of these extracurricular classes?

Record your answer on the grid below. Be sure to use the correct place value.



26. Mr. Allen needs to double the volume of a rectangular prism. Which of the following procedures can be uses to double the volume of the rectangular prism?

F Increase the height of the prism by 2

G Multiply the length of the prism by 4 and multiply the width of the prism by 0.5

H Multiply the width of the prism by 4

J Add 2 units to the length of the prism

27. Mrs. Gonzales reads newspaper advertisements to compare prices at the grocery stores in her neighborhood. She found the following prices for shampoo.

Shampoo Prices

Brand A	12 ounces for $2.88
Brand B	16 ounces for $4.00
Brand C	24 ounces for $5.76
Brand D	20 ounces for $4.60

If Mrs. Gonzales wants to save as much money as possible, which brand of shampoo should she buy?

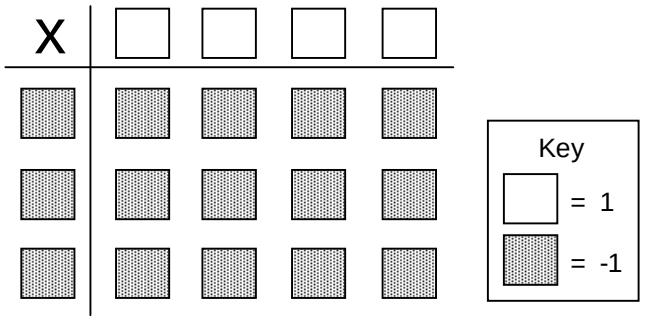
A Brand A because it costs the less than 25 cents per ounce

B Brand B because it is the brand her daughter prefers

C Brand C because it is the largest bottle

D Brand D because it costs 23 cents per ounce which is less than the other brands

28. Look at the model below.



Which equation is represented by the model?

F $3 \cdot 4 = 12$

G $3 \cdot (-4) = -12$

H $(-4) \cdot (-3) = 12$

J $(-3) \cdot 4 = -12$

29. Jose separated pairs of angle measures into Set A and Set B as shown below.

Set A

First Angle	Second Angle
44°	136°
72°	108°
87°	93°

Set B

First Angle	Second Angle
120°	50°
130°	47°
45°	145°

Based on Set A and Set B shown above, what is the rule that places the angle pairs in Set A?

A The angles in each pair have only even numbers for their measure.

B The angles in each pair are supplementary.

C The angles in each pair are complementary.

D The angles in each pair are larger than 45° in measure.

---

30. Ms. Johnson found four advertisements for a new toaster oven she plans to purchase. The advertisements are shown below:

Which store will have the lowest final cost for the toaster oven before taxes?

F Store A

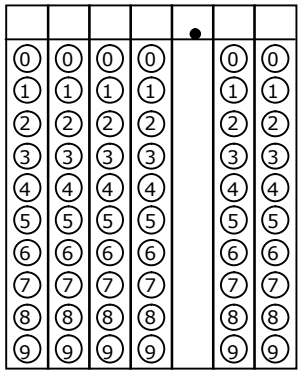
G Store B

H Store C

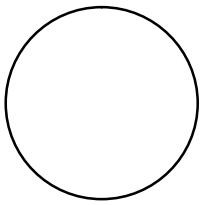
J Store D

31. On Saturday Suzy received a $30 allowance. By Tuesday she had spent $11.35 and on Wednesday she spent $10.50. How much of Suzy's allowance was left after Wednesday?

Record your answer on the grid below. Be sure to use the correct place value.



32. Davis knows the circumference of the circle on a logo he created is approximately 144 units.



Which procedure can Davis use to find a reasonable estimate for the radius of the circle?

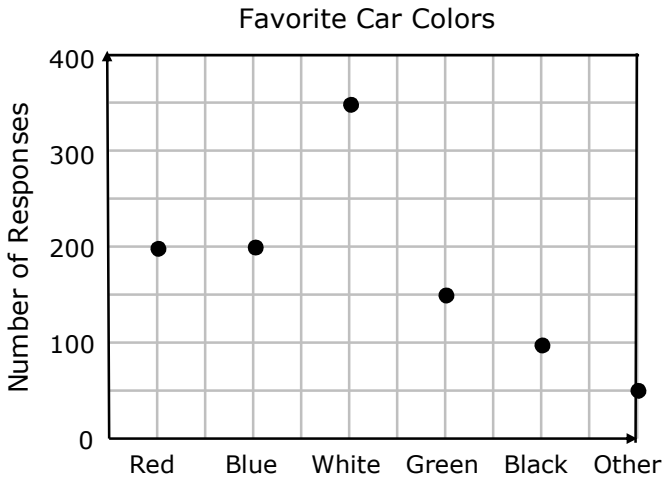
F Divide 144 by 3

G Divide 144 by 3 and then divide the quotient by 2

H Multiply 144 by 3 and then divide the product by 2.

J Divide 144 by 2 and then multiply the quotient by 3

33. A local auto dealer conducted a survey about the favorite color of cars. The results are shown below.



Which of the following is a reasonable statement based on the data in the graph?

A More than twice as many people chose red as chose green as their favorite car color.

B More people chose green and other than chose red as their favorite car color.

C The same number of people chose blue as chose red as their favorite car color.

D More than half the people surveyed chose green or white as their favorite car color.

34. The Smith Family estimates that 24.5% of their income will be spent for housing expenses. Which number is NOT equivalent to 24.5%?

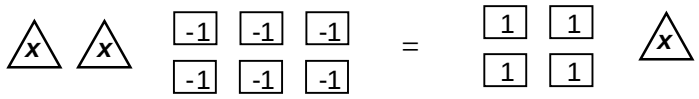
F 0.0245

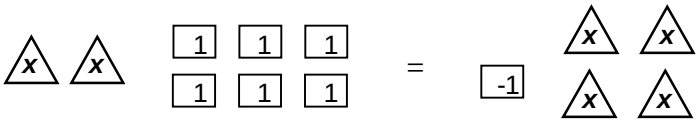
G $\frac{245}{1000}$

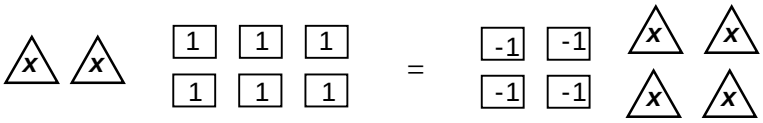
H 0.245

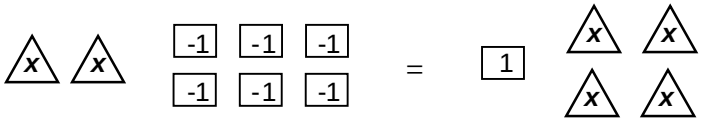
J $\frac{24.5}{100}$

35. Which of the following correctly models the equation $2x - 6 = 1 + 4x$?

A 

B 

C 

D 

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36. The chart lists several cities in the continental United States and the average annual rainfall in those cities.

U.S. Cities and Average Annual Rainfall

City	Average Annual Rainfall (inches)
Pensacola, Florida	67
New Orleans, Louisiana	64
West Palm Beach, Florida	63
Lafayette, Louisiana	62
Port Arthur, Texas	61

If Mobile, Alabama, has the largest average annual rainfall for all the cities in the continental United States, which conclusion can be drawn?

F Mobile receives an average of 3 more inches of rainfall each year than Pensacola.

G The difference between the average annual rainfall in Lafayette and Port Arthur is less than the difference between the average annual rainfall in Mobile and Pensacola.

H The average annual rainfall in Mobile is more than 67 inches.

J The average annual rainfall in Mobile is more than the combined average annual rainfall in Lafayette and Port Arthur.

37. For a long distance call a phone company charges \$0.50 for the first minute and \$0.20 for each additional minute or part of a minute. Which expression can be used to find the total cost for a phone call that lasts 15 minutes and 23 seconds?

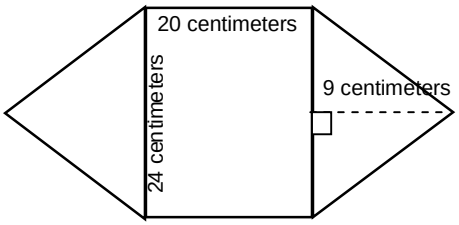
A $0.50 + 14 \times (0.20)$

B $0.50 \times 14 \times (0.20)$

C $0.20 + 15 \times (0.50)$

D $0.50 + 15 \times (0.20)$

38. A figure is created by using two congruent triangles and a rectangle.



Which is closest to the area of the figure?

F 4,320 cm^2

G 696 cm^2

H 912 cm^2

J 304 cm^2

39. Which expression represents how many $\frac{1}{2}$-pound hamburger patties can be made from $5\frac{1}{2}$ pounds of hamburger meat?

A $\frac{1}{2} \div 5\frac{1}{2}$

B $\frac{1}{2} \times 5\frac{1}{2}$

C $5\frac{1}{2} \div \frac{1}{2}$

D $5\frac{1}{2} - \frac{1}{2}$

40. Point A is reflected across the x-axis and then translated 2 units right. The new coordinates are $(4, -5)$. What were the original coordinates?

F $(2, 5)$

G $(2, -3)$

H $(-2, 3)$

J $(2, 7)$

41. The Dragon school district hired a consultant to present a program about personal safety to middle school students. The consultant used the following information to estimate the total number of students that will attend the program.

    - 4 middle schools
    - 15-20 homeroom classes in each middle school
    - 20-25 students in each homeroom

    Which of the following is the best estimate of the total number of students that will attend the personal safety program?

    A 1,500

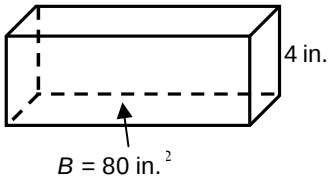
    B 2,500

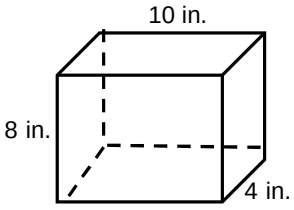
    C 3,000

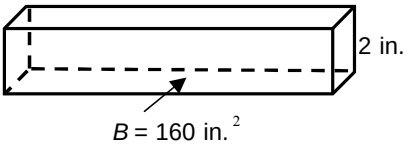
    D 1,100

---

42. The rectangular prisms in the set below have a volume of 320 cubic inches.

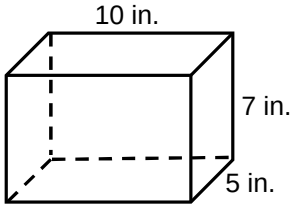




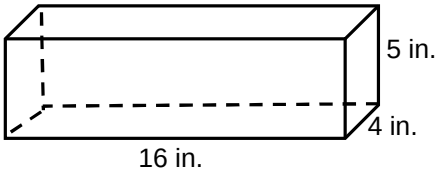


Which rectangular prism would belong to this set?

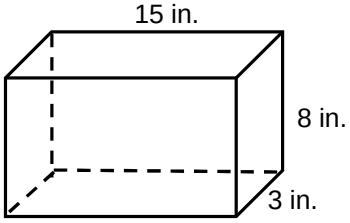
F



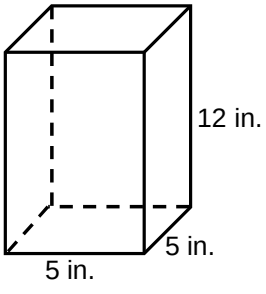
H



G



J



43. Look at the relationship between gallons and ounces as shown in the table.

Gallons	Ounces
1	128
2	256
2.5	320
g	n

Which formula can be used to convert g gallons into n ounces?

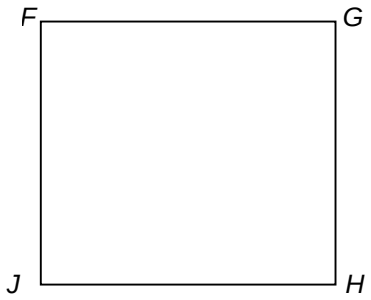
A $g = 128 + n$

B $n = 128 \times g$

C $n = g \div 128$

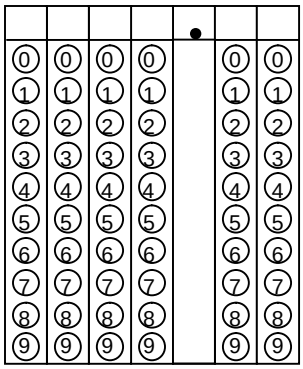
D $n = 128 \div g$

44. Rectangle *FGHJ* is shown below. The area of the rectangle is 552 square inches.



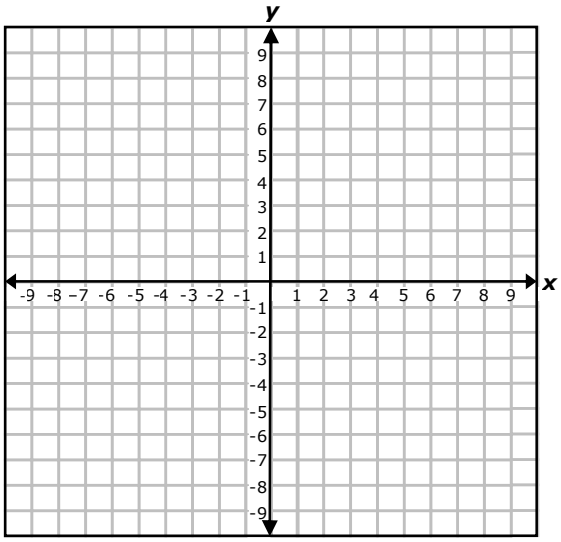
If $GH = 24$ inches, what is the perimeter of rectangle *FGHJ* in inches?

Record your answer on the grid below. Be sure to use the correct place value.



45. The table below represents ordered pairs for locations that are Jean's favorite places.

Place	x	y
Movie Theatre	0	1
Yogurt Store	3	4
Music Store	-1	8
Salon	-3	-2



Which of the following is located on a line with the Salon, Movie Theatre and Yogurt Store?

A Shoe Store (6, 7)

B Sports Store (6, 1)

C Library (1, 6)

D Post Office (2, 2)

46. Mrs. Charles asked six students to record the number of hours they watched television on Tuesday night. The data she gathered is recorded below.

Tuesday Night Television Time

Student	Number of Hours
Larry	$2\frac{2}{5}$
Bonnie	2.6
Margaret	$2\frac{3}{10}$
Bobby	3.2
Anita	$1\frac{1}{2}$
Gerald	$\frac{1}{2}$

How many hours did the six students watch television on Tuesday night?

F $11\frac{1}{2}$

G $11\frac{3}{4}$

H $12\frac{1}{2}$

J $12\frac{3}{5}$

47. The seventh grade class at Midway Middle School has 350 members. If 140 students made the A Honor Roll, which of the following represents the percent of students that did NOT make the A Honor Roll?

A 60%

B 40%

C 25%

D 75%

48. Mr. Johnson's supervisor kept a record of when each of his employees arrived at team meetings. The table below is a record of Mr. Johnson's arrival times for staff meetings.

Staff Meeting Arrivals

Arrival Times for Mr. Johnson	Percent
On time	60
1 second to 4 minutes late	20
4 minutes 1 second to 8 minutes late	15
More than 8 minutes late	5

Which statement is best supported by the table?

F Mr. Johnson was late for a higher percent of staff meetings than he was on time.

G Mr. Johnson was late for more than half of the staff meetings.

H Mr. Johnson was 1 second to 4 minutes late twenty times for staff meetings.

J Mr. Johnson was on time for staff meetings exactly three times as often as he was 1 second to 4 minutes late.

49. In geography class students were asked where they would most like to visit during their summer vacation. The chart below shows the data from the survey.

Summer Vacation

State	Number of Students
California	7
Florida	8
Washington	7
Texas	6
Arizona	4
Louisiana	5
Other States	3

Which measure of the data is represented by 5?

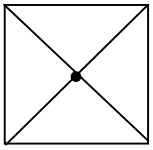
A Mean

B Median

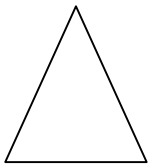
C Mode

D Range

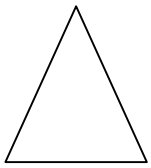
50. The top, front, and side view of a 3-dimensional figure are shown below.



Top view



Front view



Side view

Which of the following can be represented by these views?

F Triangular prism

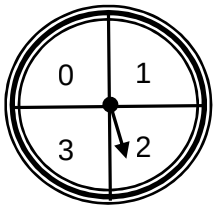
G Rectangular pyramid

H Triangular pyramid

J Rectangular prism

---

51. Beatrice will spin the spinner shown below two different times.



Which table shows the unique outcomes for her two spins if the sum of the two spins is an odd number?

A

First Spin	Second Spin
1	2
0	3
3	0

C

First Spin	Second Spin
1	0
3	0
2	1
1	2

B

First Spin	Second Spin
1	0
0	1
3	0
0	3
1	2
2	1
3	2
2	3

D

First Spin	Second Spin
1	1
2	2
2	0
0	2
1	2
3	0
0	0
0	3

52. Leroy incorrectly answered 25% of the 48 questions on his science test last week. How many questions did he answer correctly?

F 12

G 30

H 36

J 24

53. Sharon bought new towels for her bathroom. The towels were on sale for 40% off the regular price. If the regular price of a towel was $18, how much did Sharon save if she bought 5 towels on sale?

A $7.20

B $54

C $25

D $36

54. Look at the equation below.

$$y = 12x$$

Which problem situation can be represented by the equation?

F What is *y,* the number of feet in *x* inches?

G What is *y*, the number of inches in *x* yards?

H What is *y,* the number of years in *x* months?

J What is *y*, the number of months in *x* years?

TEKSING TOWARD STAAR

MATHEMATICS ®

Format B One-Column STAAR Format

TEKSING TOWARD STAAR
Mathematics STAAR Blueprint Assessment 1
Grade 7

1. The ratio of students to mathematics teachers at Bell Middle School is 80 to 1. If there are 400 seventh grade students at Bell Middle School, how many seventh grade mathematics teachers are there?

   A 4

   B 9

   C 5

   D 8

---

2. Molly has a rectangular prism that is 20 centimeters high. The volume of the prism is 360 cubic centimeters. Which of the following can be used to find the area of the base of the prism?

   F Divide the volume of the prism by the height of the prism.

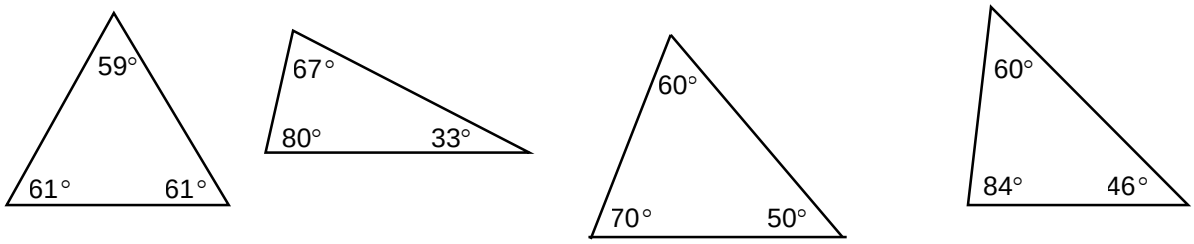
   G Multiply the volume of the prism by the height of the prism.

   H Add the volume of the prism to the height of the prism.

   J Divide the height of the prism by the volume of the prism.

---

3. What statement is true about all the figures below?



   A All the figures are scalene triangles.

   B All the figures are isosceles triangles.

   C One of the figures is an obtuse triangle.

   D All the figures are acute triangles.

---

4. Mr. Long selected a radio for his son's birthday present. The regular price of the radio was $80, but the radio was on sale at a 25% discount. Mr. Long also had to pay an 8% sales tax on the sale price. How much did Mr. Long pay for the radio?

   F $60.00

   G $64.80

   H $86.60

   J $65.80

5. A three-dimensional figure has 15 edges and 10 vertices. Which is the figure?

   A Pentagonal pyramid

   B Triangular prism

   C Pentagonal prism

   D Rectangular prism

---

6. Grouping symbols are missing in the expression below. The expression needs to have a value of 84 when simplified.

$$8 \times 2 + 3 + 6 - 2^2$$

   Which of the following has a value of 84 when simplified?

   F $8 \times (2 + 3) + 6 - 2^2$

   G $8 \times 2 + 3 + (6 - 2)^2$

   H $8 \times 2 + (3 + 6 - 2)^2$

   J $8 \times (2 + 3 + 6) - 2^2$

---

7. Quadrilateral *ABCD* is similar to quadrilateral *EFGH*. $\angle A$ and $\angle C$ are supplementary angles. Which statement below is NOT always true?

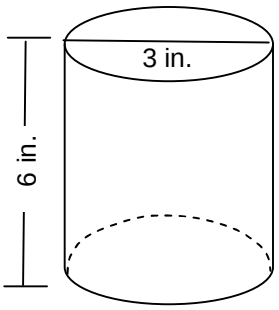
   A $\angle F$ and $\angle H$ are supplementary.

   B $\overline{AB} \cong \overline{EF}$

   C $\angle C \cong \angle G$

   D $\frac{CD}{GH} = \frac{AB}{EF}$

8. A pencil and pen holder is a cylindrical container. The container has a diameter of 3 inches and a height of 6 inches as shown below.



Which expression can be used to find the approximate volume of the pencil and pen holder?

F $(3^2)(3)$

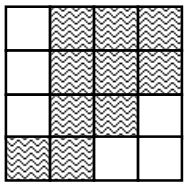
G $(3.14)(1.5)(6)$

H $(1.5^2)(6)(3.14)$

J $(3.14)(3^2)(6)$

---

9. Lucy shaded 10 of the 16 squares as shown below**.**



What percent of the squares did she shade?

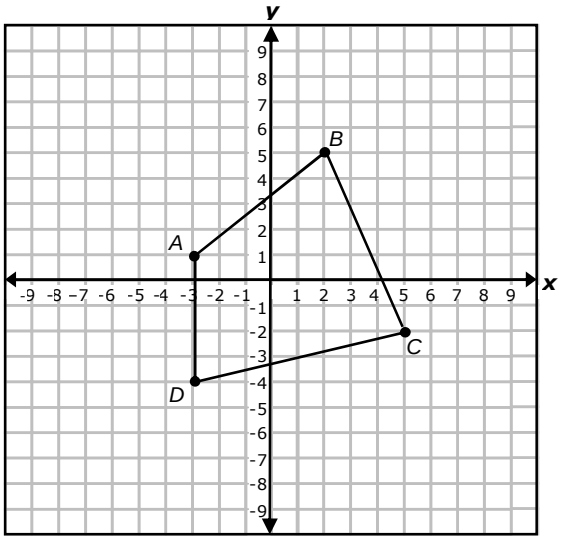
A 25%

B 37.5%

C 0.625%

D 62.5%

10. Quadrilateral *ABCD* is graphed on a coordinate plane as shown below.



Which of the following requires the least movements in whole units to translate the quadrilateral so the entire figure is contained in quadrant four?

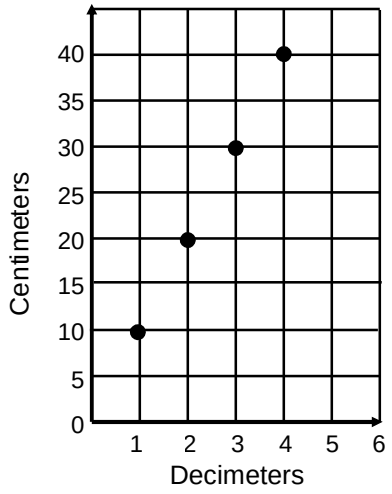
F Move 3 units right and 5 units down

G Move 4 units right and 2 units down

H Move 5 units right and 7 units down

J Move 4 units right and 6 units down

11. The graph represents the relationship between centimeters and decimeters.



Which is the best estimate of the number of centimeters in 3.5 decimeters?

A 35 centimeters

B 3.5 centimeters

C 350 centimeters

D 0.35 centimeters

---

12. Roger kept a record of the number of minutes he studied for his six weeks exam in five of his classes. The data is shown in the table below.

Roger's Exam Study Times

Class	Number of Minutes
Science	60
History	55
Math	45
English	45
Health	50

Roger wants to use the measure of central tendency and variability that will show he studied the greatest number of minutes. Which measure should he use?

F Mode

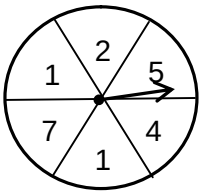
G Median

H Mean

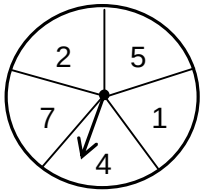
J Range

13. Rena designed a spinner with the same probability of spinning an even number or spinning a number less than 3. Which spinner best represents Rena's spinner?

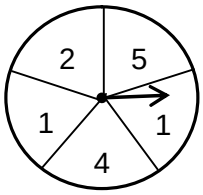
A



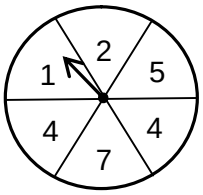
C



B



D



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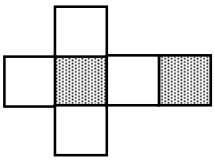
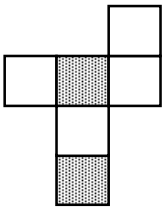
14. Carmen was given several nets for cubes. She shaded two faces that could be used as bases on each net she was given. Which of the following nets could NOT have been the one that Carmen shaded?

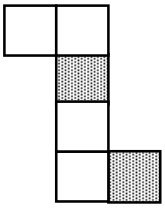
F



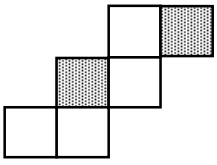
H



G



J



15. Lois was asked to draw a model to represent $\sqrt{256}$. Which of the following would be a correct model for $\sqrt{256}$?

A An array that has 16 dots in each of 16 rows

B An array that has 32 dots in each of 8 rows

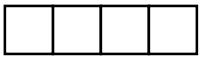
C An array that has 128 dots in each of 2 rows

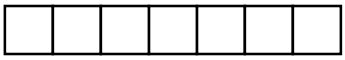
D An array that has 4 dots in each of 64 rows

---

16. Square tiles were used to create the pattern of figures shown below.

Step 1: 

Step 2: 

Step 3: 

Which of the following describes the number of tiles that would be needed for Step *n*?

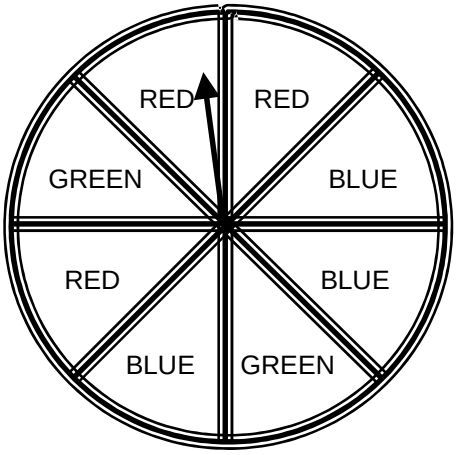
F $2n - 1$

G $2n + 1$

H $3n - 2$

J n^2

17. Andrew and his friends are playing a game that has a spinner with equal sections as shown below.



Terry must spin any color other than green on his last spin of the game because he loses the game if he spins green. What is the probability that Terry will win the game?

A $\frac{1}{4}$

B $\frac{1}{3}$

C $\frac{5}{8}$

D $\frac{3}{4}$

---

18. A bag of 120 colored beads contains 30% green beads, 20% red beads, 35% blue beads and 15% white beads. Which proportion can be used to find b, the number of blue beads in the bag?

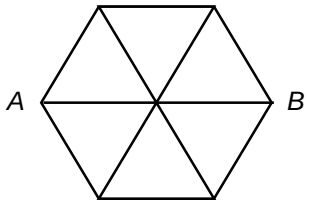
F $\frac{100}{120} = \frac{b}{35}$

G $\frac{b}{120} = \frac{35}{100}$

H $\frac{35}{b} = \frac{120}{100}$

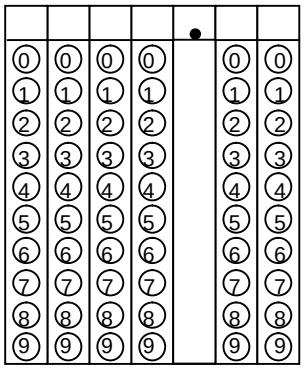
J $\frac{100}{35} = \frac{b}{120}$

19. Creative Concrete Company is designing a new patio that will be hexagonal shaped. The patio will be created by joining 6 equilateral concrete triangles as shown below.



If the distance from point *A* to point *B* is 5 feet, what is the perimeter of the patio in feet?

Record your answer on the grid below. Be sure to use the correct place value.



20. Loren bought movie tickets at a special price of 4 for $15. The maximum number she could purchase at that price was 8 tickets. Which of the following equations could be used to find the total cost, *T*, for the purchase of the maximum number of tickets?

F $T = 32 \times 15$

G $T = 8 \times 15$

H $T = 8 + 3 \times 15$

J $T = 2 \times 15$

21. Steve created a set of numbers with the following criteria.

- The set contains at least 9 numbers.
- The mean of the set is less than the range.
- The median is one more than the mode.
- The mode, median, mean, and range are consecutive numbers.

Below is the set of numbers Steve created.

{12, 14, 20, 20, 21, 23, 24, 29, 35}

Which statement best describes Steve's set?

A Steve's set does not meet the criteria because his set has a mean that is greater than the range.

B Steve's set does not meet the criteria because the set does not contain at least 9 numbers.

C Steve's set meets the criteria.

D Steve's set does not meet the criteria because the mode, median, mean and range are not consecutive numbers.

---

22. Jody was asked to order five numbers from greatest to least. His ordered list was:

$$45,\ \ 38\frac{2}{5},\ 12\frac{1}{2},\ \_\_\_\_\_,\ \ -23$$

Which of the following would NOT correctly replace the blank in Jody's list?

F -25

G $10\frac{1}{3}$

H $8\frac{2}{3}$

J -5

---

23. The area of a rectangle is 48 square units and the width of the rectangle is 16 units. Which of the following procedures can be used to find the perimeter of the rectangle?

A Divide 48 by 16, then multiply the quotient by 2. Add 16 to the product.

B Divide 16 by 48, then multiply the quotient by 2. Multiply 16 by 2. Find the sum of the two products.

C Divide 48 by 16, then multiply the quotient by 2. Multiply 16 by 2. Find the product of the two products.

D Divide 48 by 16, then multiply the quotient by 2. Multiply 16 by 2. Find the sum of the two products.

24. Jimmy wrote a situation that could be represented by the equation $5m = 20$. Which situation could be represented by $5m = 20$?

F Mary had a bag with 20 candies. She ate 5 of the candies. What is *m*, the number of candies she had left?

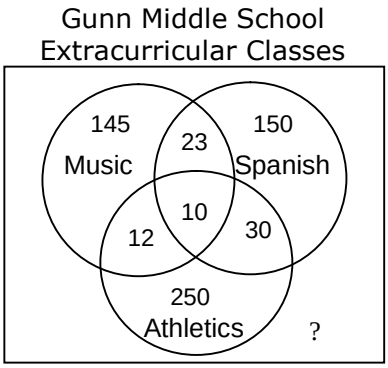
G Shirts cost $20 on sale at the local discount store. Billy bought 5 shirts. What is *m*, the cost of the shirts Billy bought?

H Joan saved $5 more than her sister, Laura. Together they saved $20. What is *m*, the amount that Joan saved?

J Judy earns $5 per hour doing chores for her mother. One week she earned $20. What is *m*, the number of hours she worked for her mother that week?

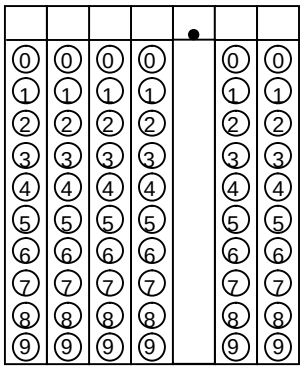
---

25. Gunn Middle School has 750 students. The Venn diagram below represents the number of students that registered for three of the extracurricular classes offered at Gunn Middle School.



How many students are NOT registered for any of these extracurricular classes?

Record your answer on the grid below. Be sure to use the correct place value.



26. Mr. Allen needs to double the volume of a rectangular prism. Which of the following procedures can be uses to double the volume
of the rectangular prism?

F Increase the height of the prism by 2

G Multiply the length of the prism by 4 and multiply the width of the prism by 0.5

H Multiply the width of the prism by 4

J Add 2 units to the length of the prism

---

27. Mrs. Gonzales reads newspaper advertisements to compare prices at the grocery stores in her neighborhood. She found the following prices for shampoo.

Shampoo Prices

Brand A	12 ounces for $2.88
Brand B	16 ounces for $4.00
Brand C	24 ounces for $5.76
Brand D	20 ounces for $4.60

If Mrs. Gonzales wants to save as much money as possible, which brand of shampoo should she buy?

A Brand A because it costs the less than 25 cents per ounce

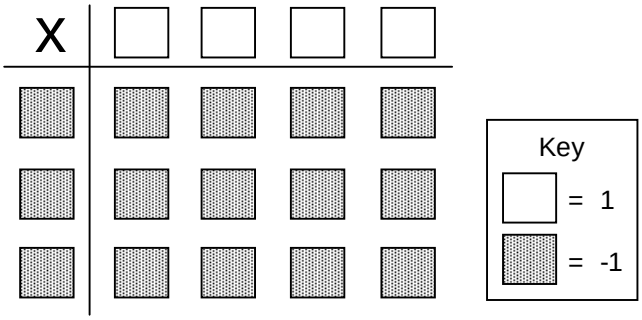
B Brand B because it is the brand her daughter prefers

C Brand C because it is the largest bottle

D Brand D because it costs 23 cents per ounce which is less than the other brands

---

28. Look at the model below.



Which equation is represented by the model?

F $3 \cdot 4 = 12$

G $3 \cdot (-4) = -12$

H $(-4) \cdot (-3) = 12$

J $(-3) \cdot 4 = -12$

29. Jose separated pairs of angle measures into Set A and Set B as shown below.

Set A

First Angle	Second Angle
44°	136°
72°	108°
87°	93°

Set B

First Angle	Second Angle
120°	50°
130°	47°
45°	145°

Based on Set A and Set B shown above, what is the rule that places the angle pairs in Set A?

A The angles in each pair have only even numbers for their measure.

B The angles in each pair are supplementary.

C The angles in each pair are complementary.

D The angles in each pair are larger than 45° in measure.

---

30. Ms. Johnson found four advertisements for a new toaster oven she plans to purchase. The advertisements are shown below:

Which store will have the lowest final cost for the toaster oven before taxes?

F Store A

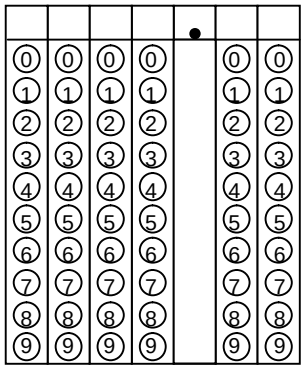
G Store B

H Store C

J Store D

31. On Saturday Suzy received a $30 allowance. By Tuesday she had spent $11.35 and on Wednesday she spent $10.50. How much of Suzy's allowance was left after Wednesday?

Record your answer on the grid below. Be sure to use the correct place value.



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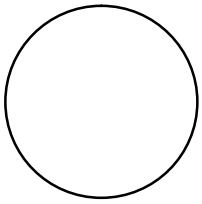
32. Davis knows the circumference of the circle on a logo he created is approximately 144 units.



Which procedure can Davis use to find a reasonable estimate for the radius of the circle?

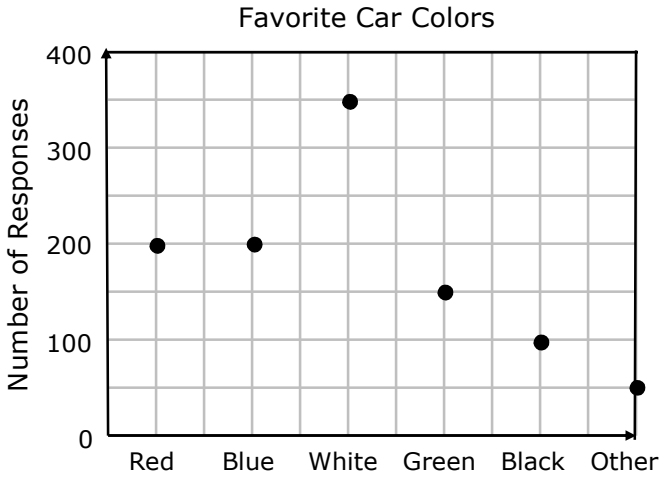
F Divide 144 by 3

G Divide 144 by 3 and then divide the quotient by 2

H Multiply 144 by 3 and then divide the product by 2.

J Divide 144 by 2 and then multiply the quotient by 3

33. A local auto dealer conducted a survey about the favorite color of cars. The results are shown below.



Which of the following is a reasonable statement based on the data in the graph?

A More than twice as many people chose red as chose green as their favorite car color.

B More people chose green and other than chose red as their favorite car color.

C The same number of people chose blue as chose red as their favorite car color.

D More than half the people surveyed chose green or white as their favorite car color.

---

34. The Smith Family estimates that 24.5% of their income will be spent for housing expenses. Which number is NOT equivalent to 24.5%?

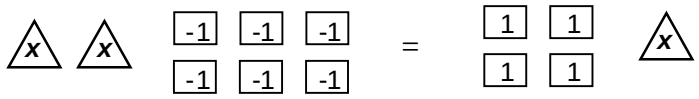
F 0.0245

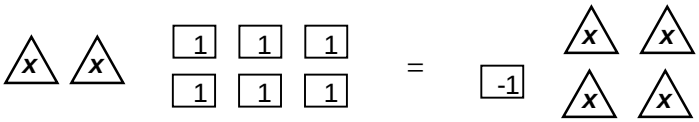
G $\frac{245}{1000}$

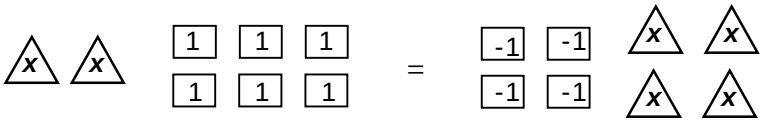
H 0.245

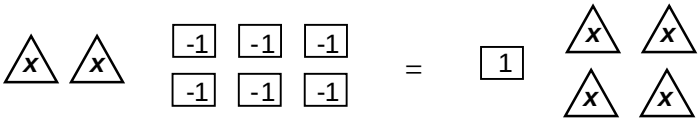
J $\frac{24.5}{100}$

35. Which of the following correctly models the equation $2x - 6 = 1 + 4x$?

A 

B 

C 

D 

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36. The chart lists several cities in the continental United States and the average annual rainfall in those cities.

U.S. Cities and Average Annual Rainfall

City	Average Annual Rainfall (inches)
Pensacola, Florida	67
New Orleans, Louisiana	64
West Palm Beach, Florida	63
Lafayette, Louisiana	62
Port Arthur, Texas	61

If Mobile, Alabama, has the largest average annual rainfall for all the cities in the continental United States, which conclusion can be drawn?

F Mobile receives an average of 3 more inches of rainfall each year than Pensacola.

G The difference between the average annual rainfall in Lafayette and Port Arthur is less than the difference between the average annual rainfall in Mobile and Pensacola.

H The average annual rainfall in Mobile is more than 67 inches.

J The average annual rainfall in Mobile is more than the combined average annual rainfall in Lafayette and Port Arthur.

37. For a long distance call a phone company charges $0.50 for the first minute and $0.20 for each additional minute or part of a minute. Which expression can be used to find the total cost for a phone call that lasts 15 minutes and 23 seconds?

A $0.50 + 14 \times (0.20)$

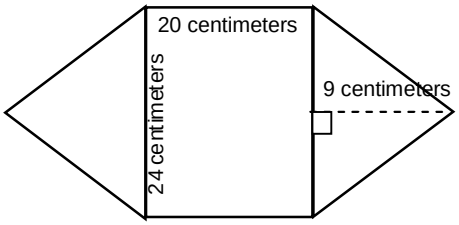
B $0.50 \times 14 \times (0.20)$

C $0.20 + 15 \times (0.50)$

D $0.50 + 15 \times (0.20)$

---

38. A figure is created by using two congruent triangles and a rectangle.



Which is closest to the area of the figure?

F 4,320 cm^2

G 696 cm^2

H 912 cm^2

J 304 cm^2

---

39. Which expression represents how many $\frac{1}{2}$-pound hamburger patties can be made from $5\frac{1}{2}$ pounds of hamburger meat?

A $\frac{1}{2} \div 5\frac{1}{2}$

B $\frac{1}{2} \times 5\frac{1}{2}$

C $5\frac{1}{2} \div \frac{1}{2}$

D $5\frac{1}{2} - \frac{1}{2}$

40. Point A is reflected across the x-axis and then translated 2 units right. The new coordinates are $(4, -5)$. What were the original coordinates?

F $(2, 5)$

G $(2, -3)$

H $(-2, 3)$

J $(2, 7)$

---

41. The Dragon school district hired a consultant to present a program about personal safety to middle school students. The consultant used the following information to estimate the total number of students that will attend the program.

- 4 middle schools
- 15-20 homeroom classes in each middle school
- 20-25 students in each homeroom

Which of the following is the best estimate of the total number of students that will attend the personal safety program?

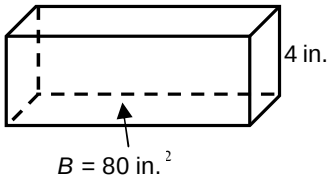
A 1,500

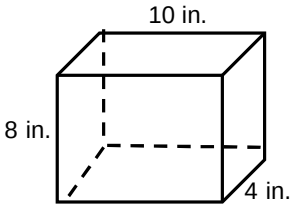
B 2,500

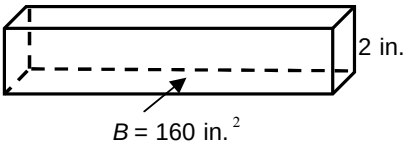
C 3,000

D 1,100

42. The rectangular prisms in the set below have a volume of 320 cubic inches.

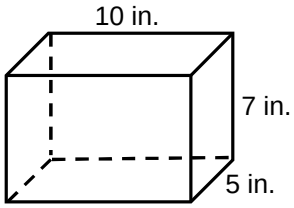




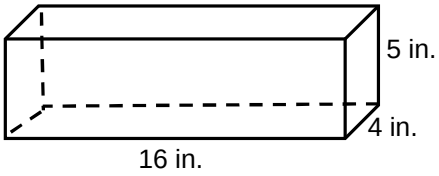


Which rectangular prism would belong to this set?

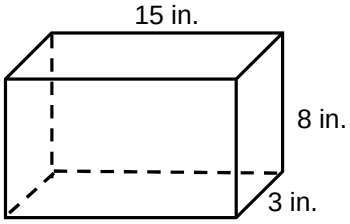
F



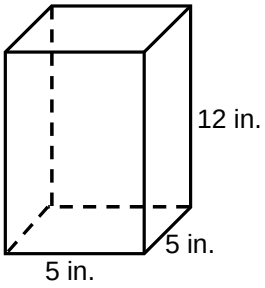
H



G



J



---

43. Look at the relationship between gallons and ounces as shown in the table.

Gallons	Ounces
1	128
2	256
2.5	320
g	*n*

Which formula can be used to convert *g* gallons into *n* ounces?

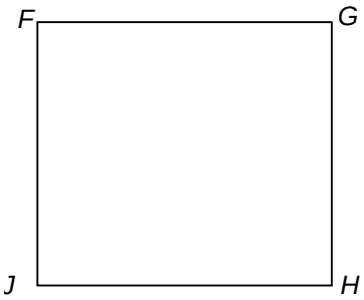
A $g = 128 + n$

B $n = 128 \times g$

C $n = g \div 128$

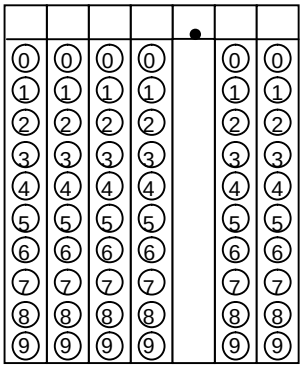
D $n = 128 \div g$

44. Rectangle *FGHJ* is shown below. The area of the rectangle is 552 square inches.



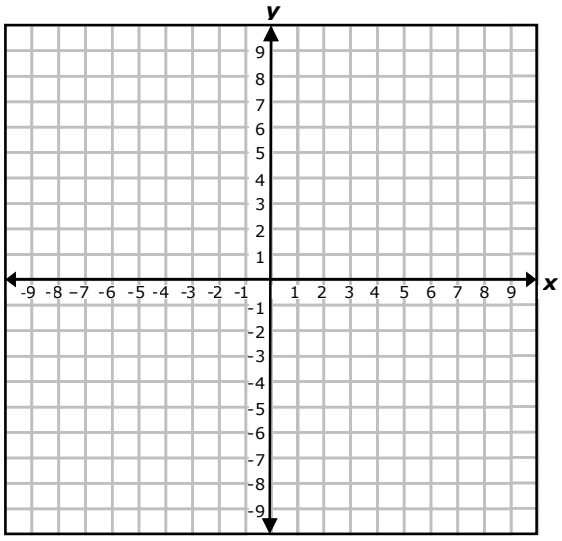
If *GH* = 24 inches, what is the perimeter of rectangle *FGHJ* in inches?

Record your answer on the grid below. Be sure to use the correct place value.



45. The table below represents ordered pairs for locations that are Jean's favorite places.

Place	*x*	*y*
Movie Theatre	0	1
Yogurt Store	3	4
Music Store	– 1	8
Salon	– 3	– 2



Which of the following is located on a line with the Salon, Movie Theatre and Yogurt Store?

A Shoe Store (6, 7)

B Sports Store (6, 1)

C Library (1, 6)

D Post Office (2, 2)

46. Mrs. Charles asked six students to record the number of hours they watched television on Tuesday night. The data she gathered is recorded below.

Tuesday Night Television Time

Student	Number of Hours
Larry	$2\frac{2}{5}$
Bonnie	2.6
Margaret	$2\frac{3}{10}$
Bobby	3.2
Anita	$1\frac{1}{2}$
Gerald	$\frac{1}{2}$

How many hours did the six students watch television on Tuesday night?

F $11\frac{1}{2}$

G $11\frac{3}{4}$

H $12\frac{1}{2}$

J $12\frac{3}{5}$

---

47. The seventh grade class at Midway Middle School has 350 members. If 140 students made the A Honor Roll, which of the following represents the percent of students that did NOT make the A Honor Roll?

A 60%

B 40%

C 25%

D 75%

48. Mr. Johnson's supervisor kept a record of when each of his employees arrived at team meetings. The table below is a record of Mr. Johnson's arrival times for staff meetings.

Staff Meeting Arrivals

Arrival Times for Mr. Johnson	Percent
On time	60
1 second to 4 minutes late	20
4 minutes 1 second to 8 minutes late	15
More than 8 minutes late	5

Which statement is best supported by the table?

F Mr. Johnson was late for a higher percent of staff meetings than he was on time.

G Mr. Johnson was late for more than half of the staff meetings.

H Mr. Johnson was 1 second to 4 minutes late twenty times for staff meetings.

J Mr. Johnson was on time for staff meetings exactly three times as often as he was 1 second to 4 minutes late.

---

49. In geography class students were asked where they would most like to visit during their summer vacation. The chart below shows the data from the survey.

Summer Vacation

State	Number of Students
California	7
Florida	8
Washington	7
Texas	6
Arizona	4
Louisiana	5
Other States	3

Which measure of the data is represented by 5?

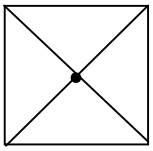
A Mean

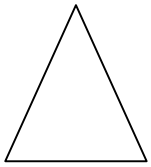
B Median

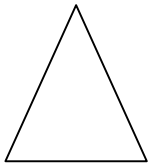
C Mode

D Range

50. The top, front, and side view of a 3-dimensional figure are shown below.


Top view


Front view


Side view

Which of the following can be represented by these views?

F Triangular prism

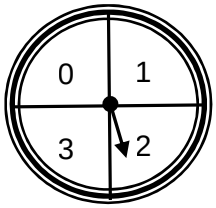
G Rectangular pyramid

H Triangular pyramid

J Rectangular prism

---

51. Beatrice will spin the spinner shown below two different times.



Which table shows the unique outcomes for her two spins if the sum of the two spins is an odd number?

A

First Spin	Second Spin
1	2
0	3
3	0

C

First Spin	Second Spin
1	0
3	0
2	1
1	2

B

First Spin	Second Spin
1	0
0	1
3	0
0	3
1	2
2	1
3	2
2	3

D

First Spin	Second Spin
1	1
2	2
2	0
0	2
1	2
3	0
0	0
0	3

52. Leroy incorrectly answered 25% of the 48 questions on his science test last week. How many questions did he answer correctly?

F 12

G 30

H 36

J 24

---

53. Sharon bought new towels for her bathroom. The towels were on sale for 40% off the regular price. If the regular price of a towel was $18, how much did Sharon save if she bought 5 towels on sale?

A $7.20

B $54

C $25

D $36

---

54. Look at the equation below.

$$y = 12x$$

Which problem situation can be represented by the equation?

F What is *y,* the number of feet in *x* inches?

G What is *y*, the number of inches in *x* yards?

H What is *y,* the number of years in *x* months?

J What is *y*, the number of months in *x* years?