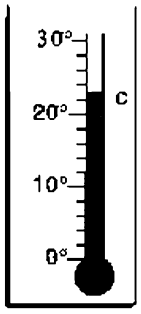
1 Which of these has the opposite value of $-(-9)$?

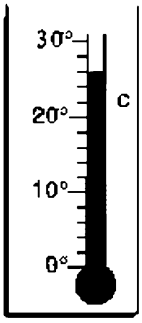
$-(-9)$	$\lvert -9 \rvert$
$-\lvert -9 \rvert$	(-9)
9	$\frac{1}{9}$

2 Mrs. Ranada told her class that it was warmer than 22° C and cooler than 24° C outside. Which thermometer shows a temperature between 22° C and 24° C?

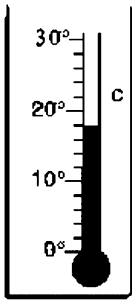
A.



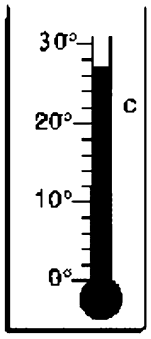
B.



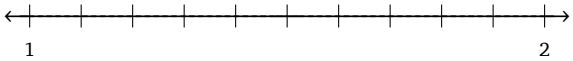
C.



D.



3 On the number line below, Maria correctly labels the numbers 1.8, $1\frac{2}{5}$, 1.06, and $1\frac{1}{2}$.



Which number is located furthest from 2?

A. 1.8 B. $1\frac{2}{5}$ C. 1.06 D. $1\frac{1}{2}$

4 Which of the following makes a true statement?

A. $4.0 < -8.0$ B. $4.008 > 4.080$

C. $-4.8 < -2.4$ D. $-8.4 > -4.8$

5 Of the 6 books on a shelf, 2 books are mysteries.

Which of these can be used to find the fraction of books on the shelf that are mysteries?

A. $6 - 2 = \square$ B. $2 + 6 = \square$

C. $2 \div 6 = \square$ D. $6 \div 2 = \square$

6 What is the smallest number that has both 12 and 18 as a factor?

A. 6 B. 24 C. 36 D. 108

7 A recipe for peach cobbler requires $2\frac{3}{4}$ cups of fresh peaches.

In each box, write the correct fraction to complete the sentences.

When the recipe is doubled $\square$ cups of fresh peaches are required.

If the recipe is cut in half, then $\square$ cups of fresh peaches are required.

8 A group of friends went fishing. They each caught 20 fish but not all of them were "keepers." Which person was able to keep $\frac{3}{5}$ of the fish that he or she caught?

A. Jevon

B. Marichu

C. Clem

D. Helga

Person	"Keepers"
Jevon	8 of 20
Marichu	12 of 20
Clem	15 of 20
Helga	18 of 20

9 The list below shows the amount of supplies Stevie used to make 5 picture frames.

- $\frac{1}{4}$ bottle of glue
- $43\frac{3}{4}$ popsicle sticks
- 20 stickers
- 5 labels

Based on the information in the list, which statement is *not* true?

A. To make 15 frames, Stevie should use $\frac{3}{4}$ bottle of glue.

B. To make 6 frames, Stevie should use $52\frac{1}{2}$ popsicle sticks

C. To make 10 frames, Stevie should use 30 stickers.

D. To make 12 frames, Stevie should use 12 labels.

10 The Golden Gate Bridge is approximately 8,892 feet long. What is the approximate length of the Golden Gate Bridge in yards?

A. 5,918 yd B. 2,964 yd

C. 26,676 yd D. 988 yd

11 Luke plans to lose weight to improve his chances of making the track and field team. He currently weighs 200 lbs. His goal is to weigh 160 lbs. The scale at the gym measures weight in kilograms. If 1 lb is approximately 0.45 kilograms, how much weight in kilograms should Luke lose?

A. 2 kilograms B. 18 kilograms

C. 88 kilograms D. 90 kilograms

12 Express $\frac{1}{3}$ as a decimal and a percent.

A. 3.3 and 33% B. $0.\overline{3}$ and $33\frac{1}{3}$%

C. 0.3 and $3\frac{1}{3}$% D. none of these

13 Classify the data set.

the weight of the rotten peaches in a shipment

A. qualitative B. continuous

C. discrete D. ordinal

14 Solve for x using the correct order of operations:

$$25 - 12 \div 2 + (2 \cdot -3)^2 = x$$

A. $x = -17$ B. $x = 18.5$

C. $x = 42.5$ D. $x = 55$

15 Select each of the following expressions that are equivalent to 3.

- ❍ $15 \div (3 + 2)$
- ❍ $51 \div (8 + 9)$
- ❍ $21 \div (4 + 3)$
- ❍ $18 \div (2 + 1)$
- ❍ $42 \div (6 + 8)$

16 In triangle *ABC* the measure of angle *BCA* is 32°, and the measure of angle *CAB* is 59°. What is the measure of angle *ABC* in degrees?

17 A equilateral triangle has three angles with equal measure. What is the measure of one of those angles?

A. 30° B. 60° C. 75° D. 90°

18 A garbage disposal is mounted to the underside of a sink drain. With the help of an electric motor, the disposal grinds food scraps that collects in the drain.

Roger works in a home improvement center where he stacked a shipment of 99 cases of garbage disposals. Each case contained 4 disposals.

Use the the following numbers and operations to create an expression that can be used to show the total number of disposals in the shipment. Numbers and operation symbols may be used once or not at all.

1	2	3	4
5	10	25	100
+	−	×	÷

□(□□□)

19 Though the New York Yankees did not make it to the World Series in 2012, they held the Best League Record in the American League.

New York Yankees, 2012 Season

	Win	**Loss**
home	51	30
away	44	37

data retrieved from ESPN

Of the away games, what percent did the Yankees win?

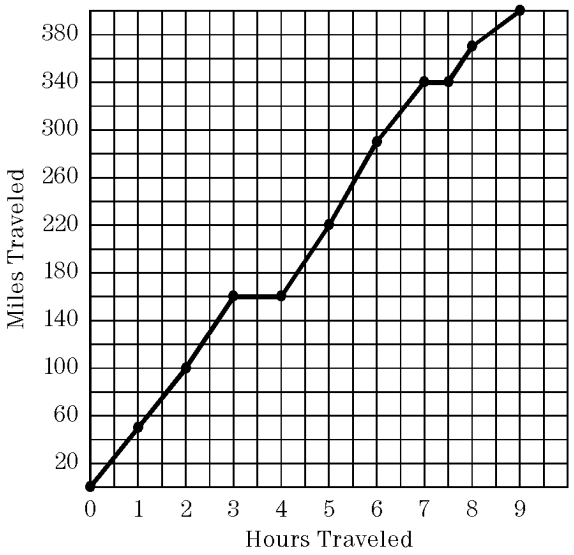
A. 51 games; about 32% of the away games.

B. 44 games; about 54% of the away games.

C. 44 games; about 46% of the away games.

D. 81 games; about 50% of the away games.

20 Amanda traveled the 400 miles to her grandmother's house with her parents. The trip took 9 hours. They left at 10:00 am and arrived at 7:00 pm. They stopped for lunch and then later for ice cream. The graph shows how many miles they traveled over the 9-hour period.



At what time did Amanda and her parents stop for lunch?

A. noon

B. 1:00 pm

C. 2:00 pm

D. 3:00 pm

21 Which of the following is most likely to hurt a consumer's credit rating?

A. Making an expensive purchase

B. Having a debit card

C. Missing a bill payment

D. Having student loans

22 A car can travel 301.2 miles on 12 gallons of gasoline. If the gasoline costs $3 per gallon, which is the closest to the cost per mile to drive the car?

A. $25.10

B. $8.37

C. $0.12

D. $0.36

23 Let the symbol $\square$ mean "multiply by two, then add the next larger integer, then multiply the sum by two." For example:

$$\boxed{3} = \Big((3 \times 2) + 4\Big) \times 2 = 20$$

Find: $\boxed{\boxed{4} + \boxed{5}}$

A. 190 B. 234 C. 240 D. 350

24 The table shows the cost of the components of one lanyard-style badge holder.

Item	Cost (US Dollars)
one-loop lanyard	0.42
swivel hook	0.10
plastic name badge	0.05

What is the approximate number of lanyard-style badge holders that can be assembled with a budget of 1 thousand dollars?

A. 2000 badge holders

B. 2500 badge holders

C. 1700 badge holders

D. 20,000 badge holders

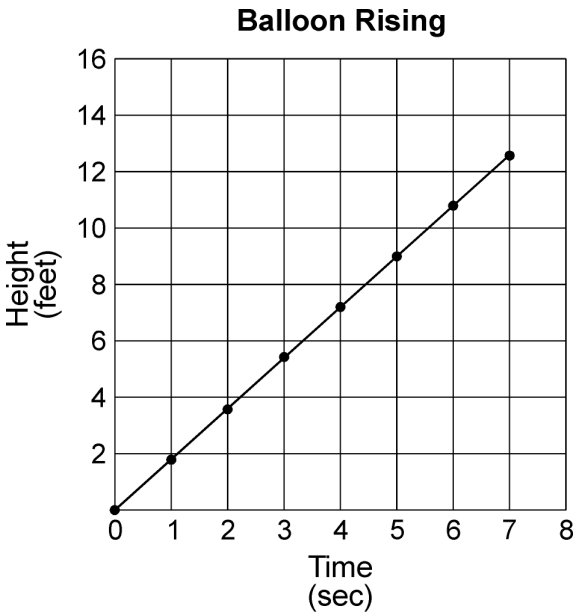
25 A radioactive element has a half-life of three days, which means that half of the material decays in each three day period. If there are 60 grams at the beginning, how many grams will be left at the end of a 6 day period?

A. 3 g B. 10 g C. 15 g D. 30 g

26 $\frac{1}{4}$ of the band play drums on pep rally days, and $\frac{3}{4}$ play instruments and horns. The remainder of the students are flag girls. If there are 100 members in the band, how many play drums?

A. 5 B. 10 C. 16 D. 25

27 Delaney carried a balloon. Her brother tickled her and she let go of the balloon.



At what rate did the balloon rise?

A. 0.6 feet per second

B. 1.8 feet per second

C. 3 feet per second

D. 7 feet per second

28 Grocery prices are expected to increase 4% during the next year. Approximately how much will a family which now spends $159.50 a week for groceries have to pay at the increased rate?

A. $200 B. $192 C. $174 D. $166

29 A typical air conditioner is about 70% efficient in how much (heat) energy it moves to the outside, compared to the amount of (electrical) energy it consumes. If an air conditioner consumes 4215 Joules of electrical energy today, what is a reasonable estimate for the amount of heat energy it moved to the outside?

A. Less than 2800 Joules

B. Between 2800 Joules and 3000 Joules

C. Between 3200 Joules and 3400 Joules

D. More than 3400 Joules

30 A bottle of spring water has two measurements on its label. One says 0.5 L. The other says 1 pint, 0.9 fl oz. Assuming this is correct, then 1 L = _____ fl oz.

A. 33.8 B. 32 C. 64 D. 67.6

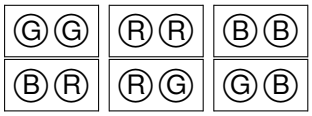
31 An architect is building a model of a bridge to show his client what the new bridge will look like. The real bridge will be 380 feet long. The architect is using a scale in which 1 inch equals 20 feet. How long will the model be?

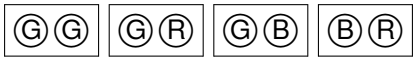
A. 1.9 inches B. 19 inches

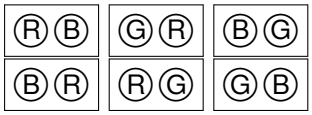
C. 19 feet D. 190 inches

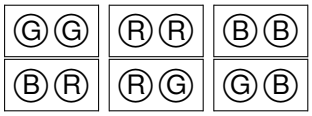
32 Shaquille put three crayons in his pocket: 1 red, 1 green and 1 blue. He pulled out one of the crayons, looked to see what color it was, and put it back in his pocket. Then he reached in and pulled out a crayon again.

If order does not matter, which diagram shows all of possible color combinations that Shaquille could pull out of his pocket?

A. 

B. 

C. 

D. 

33 Consider the following excerpt from a random number table:

0	6	6	4	1	6
3	4	2	2	9	0
0	8	7	5	3	5
4	3	2	7	7	0
2	4	3	4	5	3
8	9	8	7	7	2

To simulate the probability of exactly one boy in a 2-child family let even numbers be 'boys' and let odd numbers be 'girls'. This simulation is run by reading across the rows. This simulation estimates the probability of exactly one boy in a 2-child family to be about _____.

A. 0.50 B. 0.55 C. 0.45 D. 0.63

34 When ordering concert tickets by phone at the local stadium, there is a 73% chance of getting seats on the floor. Five friends phone by themselves and want to know the probability of all of them getting floor seats. A simulation can be done to determine the experimental probability. If a random number generator is used to simulate this, what is the quantity of numbers that must be generated for each trial?

A. 7 B. 5 C. 2 D. 10

35 According to the chart, out of 200,000 voters, how many do you predict will vote for the incumbent?

Poll of 500 voters

Choice of candidate	Number of Voters
Miller (incumbent)	250
Jamison	107
Valesquez	143

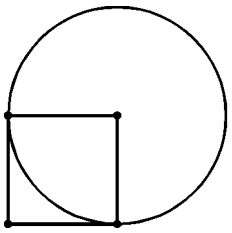
A. about 50,000 B. about 100,000

C. about 143,000 D. about 250,000

36 A spinner is divided into a black sector that has an angle measure of 135° and a white sector that has an angle measure of 225°. It is spun 100 times and lands on the black sector 50 times. What is the experimental probability of the spinner landing on the black sector?

A. 0.5 B. 0.7 C. 0.25 D. 0.375

37 In the drawing, the corner of the square is at the center of the circle.



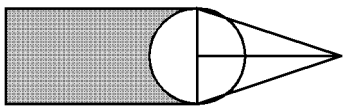
The square has an area of 25. Which of these expressions shows the area of the circle?

A. 10π B. 5π C. 25π D. $\frac{\pi}{5}$

38 A circular patio has 6-inch bricks around its border. The diameter of the patio is 10 feet. Approximately how many bricks go around the patio?

A. 5 B. 15 C. 30 D. 62

39 Which expression is best for finding the area of the shaded portion?



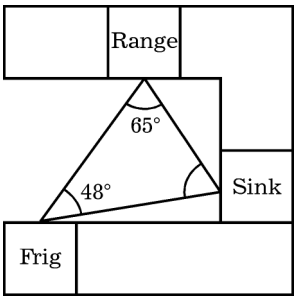
A. $l \times w\pi r^2$

B. $\pi r^2 + \frac{1}{2}bh$

C. $l \times w + \pi r^2$

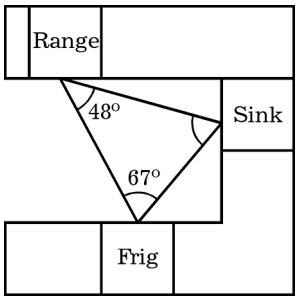
D. $l \times w - \frac{1}{2}bh - \frac{1}{2}\pi r^2$

40 Bristol Homebuilders use a "work triangle" configuration in each of its four kitchen layouts. The Work Triangle is the standard configuration used to design efficient kitchens. The three points of the triangle are represented by the refrigerator (frig), range and sink. The diagram shows the top-selling kitchen layout.

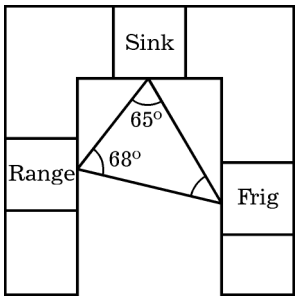


Which of the kitchen diagrams shows a "work triangle" configuration that is similar to the top-selling one?

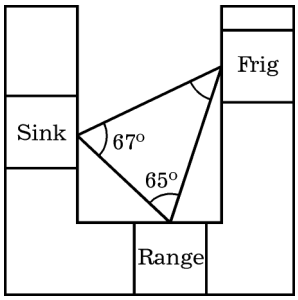
A)



B)



C)



A. Kitchen *B*

B. Kitchen *C*

C. Kitchens *A* and *B*

D. Kitchens *A* and *C*

41 A *rational* number is a number that is—

A. terminating or repeating

B. non-terminating and repeating

C. non-terminating and non-repeating

D. none of these

42 What would the division of 4,500,000 by 0.012 look like in scientific notation?

A. $\frac{4.5 \times 10^6}{1.2 \times 10^{-2}}$

B. $\frac{45 \times 10^5}{12 \times 10^{-3}}$

C. $\frac{45 \times 10^{-5}}{1.2 \times 10^3}$

D. $\frac{45 \times 10^{-5}}{0.012}$

43 Use scientific notation to simplify the expression.

$$\frac{6.4 \times 10^4}{(8.0 \times 10^4)(2.0 \times 10^3)}$$

A. 1.6×10^{-1}

B. 4.0×10^{-2}

C. 4.0×10^{-3}

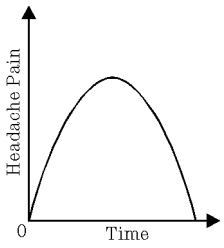
D. 4.0×10^{-4}

44 The vertices of $\triangle ABC$ have coordinates $A(0, 0)$, $B(0, 4)$ and $C(6, 0)$. A second triangle, which is a transformation of the first, has the same vertex A. If its other vertices are $B'(2, 0)$ and $C'(0, -3)$, then determine whether each of the following statements is true or false.

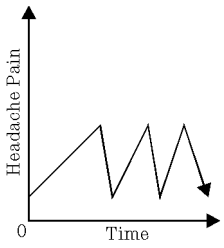
	true	**false**
$\triangle AB'C'$ is a dilation of $\triangle ABC$.	❍	❍
$\triangle AB'C'$ is a rotation of $\triangle ABC$.	❍	❍
$\triangle AB'C'$ is similar to $\triangle ABC$.	❍	❍
$\triangle AB'C'$ is congruent to $\triangle ABC$.	❍	❍

45 Allison has not been feeling well so her mother gave her some aspirin to help her headache. Which graph best represents the effect of the medicine on Allison over the time that she took it until she was ready for the next dose?

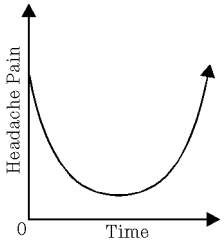
A.



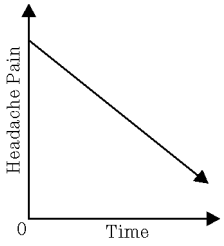
B.



C.



D.



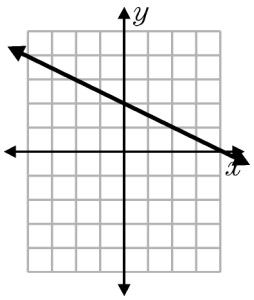
46 What is the equation of the line shown on the graph?

A. $y = \frac{1}{2}x + 4$

B. $y = 2x + 4$

C. $y = -\frac{1}{2}x + 2$

D. none of these



47 Match each equation on the right to its corresponding written statement on the left.

___ Five times the sum of a number and eight equals 28.

___ Eight less than five times a number is 28.

___ Eight less than 28 is the same as five times a number.

___ The sum of 8 and five times a number equals 28.

(A) $8 + 5x = 28$

(B) $28 - 8 = 5x$

(C) $5x - 8 = 28$

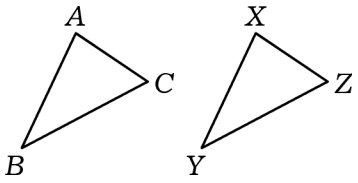
(D) $5(x + 8) = 28$

---

48 After graphing $y = \frac{2}{3}x - 2$ and $y = \frac{2}{3}x + 3$, how many times do the two graphs intersect?

A. 0 B. 2 C. 3 D. 4

49 Given that $\triangle ABC$ is congruent to $\triangle XYZ$, find the side that is congruent to $\overline{AB}$.



A. $\overline{AC}$ B. $\overline{XY}$ C. $\overline{YZ}$ D. $\overline{XZ}$

50 A researcher wants to show the relationship between the number of canned drinks sold and the number of cans recycled. A scatterplot is drawn for the data.

Choose the word that correctly completes the sentence.

The number of cans recycled is a

control
dependent
independent
uncontrolled

variable.

TX TEKS Middle School Math Samples 12/29/2023

1.
Answer: 3,4
Objective: 6.02B
Points: 1

2.
Answer: A
Objective: 6.02C
Points: 1

3.
Answer: C
Objective: 6.02C
Points: 1

4.
Answer: C
Objective: 6.02D
Points: 1

5.
Answer: C
Objective: 6.02E
Points: 1

6.
Answer: C
Objective: 6.03D
Points: 1

7.
Answer: $5\frac{1}{2}$,$1\frac{3}{8}$
Objective: 6.03E
Points: 1

8.
Answer: B
Objective: 6.04B
Points: 1

9.
Answer: C
Objective: 6.04B
Points: 1

10.
Answer: B
Objective: 6.04H
Points: 1

11.
Answer: B
Objective: 6.04H
Points: 1

12.
Answer: B
Objective: 6.05C
Points: 1

13.
Answer: B
Objective: 6.06A
Points: 1

14.
Answer: D
Objective: 6.07A
Points: 1

15.
Answer: 1,2,3,5
Objective: 6.07C
Points: 1

16.
Answer: 89
Objective: 6.08A
Points: 1

17.
Answer: B
Objective: 6.10A
Points: 1

18.
Answer: [D],[H],[J],[A]
Objective: 6.07D
Points: 1

19.
Answer: B
Objective: 6.12D
Points: 1

20.
Answer: B
Objective: 6.12C
Points: 1

21.
Answer: C
Objective: 6.14E
Points: 1

22.
Answer: C
Objective: 7.04B
Points: 1

23.
Answer: D
Objective: 7.03A
Points: 1

24.
Answer: C
Objective: 7.03B
Points: 1

25.
Answer: C
Objective: 7.03B
Points: 1

26.
Answer: D
Objective: 7.03B
Points: 1

27.
Answer: B
Objective: 7.04C
Points: 1

28.
Answer: D
Objective: 7.04D
Points: 1

29.
Answer: B
Objective: 7.04D
Points: 1

30.
Answer: A
Objective: 7.04E
Points: 1

31.
Answer: B
Objective: 7.05C
Points: 1

32.
Answer: D
Objective: 7.06A
Points: 1

33.
Answer: B
Objective: 7.06B
Points: 1

34.
Answer: B
Objective: 7.06B
Points: 1

35.
Answer: B
Objective: 7.06H
Points: 1

36.
Answer: A
Objective: 7.06I
Points: 1

37.
Answer: C
Objective: 7.08C
Points: 1

38.
Answer: D
Objective: 7.08C
Points: 1

39.
Answer: D
Objective: 7.09C
Points: 1

40.
Answer: D
Objective: 7.05C
Points: 1

41.
Answer: A
Objective: 8.02A
Points: 1

42.
Answer: A
Objective: 8.02C
Points: 1

43.
Answer: D
Objective: 8.02C
Points: 1

44.
Answer: [1],[1],[1],[2]
Objective: 8.03B
Points: 1

45.
Answer: C
Objective: 8.05G
Points: 1

46.
Answer: C
Objective: 8.05I
Points: 1

47.
Answer: D,C,B,A
Objective: 8.08A
Points: 1

48.
Answer: A
Objective: 8.09
Points: 1

49.
Answer: B
Objective: 8.10B
Points: 1

50.
Answer: 2
Objective: 8.11A
Points: 1