Released Test Questions — Math 6

1 **Which point shows the location of $\frac{3}{2}$ on the number line?**

A point *A*

B point *B*

C point *C*

D point *D*

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2 **Which list of numbers is ordered from *least* to *greatest*?**

A $\frac{1}{2}, 2\frac{1}{2}, 0.2, 0.02$

B $0.02, 0.2, 2\frac{1}{2}, \frac{1}{2}$

C $0.02, 0.2, \frac{1}{2}, 2\frac{1}{2}$

D $0.2, \frac{1}{2}, 0.02, 2\frac{1}{2}$

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3 **Which of the following fractions is closest to 0?**

A $-\frac{5}{12}$

B $-\frac{2}{3}$

C $\frac{5}{6}$

D $\frac{3}{4}$

4 **The weekly milk order for the Tranquility Inn includes 40 gallons of low-fat milk and 15 gallons of chocolate milk. What is the ratio of the number of low-fat gallons to chocolate gallons in the Tranquility Inn's weekly milk order?**

A 3:1

B 5:1

C 5:3

D 8:3

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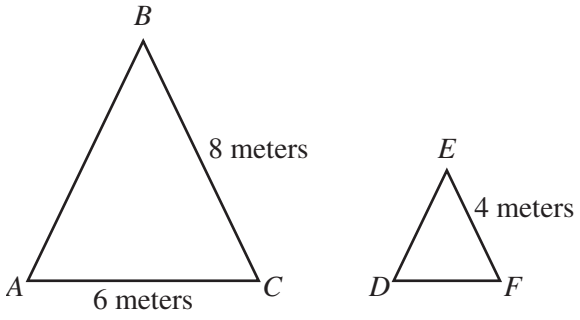
5 **$\triangle ABC$ is similar to $\triangle DEF$. What is the length of $\overline{DF}$?**



A 2 meters

B 3 meters

C 5 meters

D 10 meters

6 **A farmer harvested 14,000 pounds of almonds from an 8-acre orchard. Which proportion could be solved to find x, the expected harvest from a 30-acre orchard?**

A $\frac{8}{14{,}000} = \frac{x}{30}$

B $\frac{8}{14{,}000} = \frac{30}{x}$

C $\frac{30}{14{,}000} = \frac{x}{8}$

D $\frac{30}{14{,}000} = \frac{8}{x}$

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7 **A certain map uses a scale of 1 inch equals 25 miles. How many miles are represented by 5 inches on this map?**

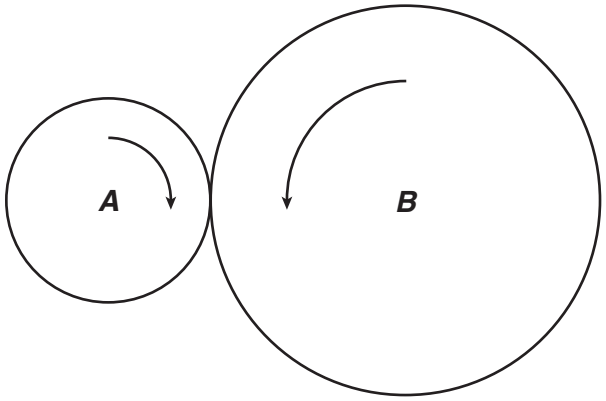
A 5

B 25

C 50

D 125

8 **When wheel *B* turns 2 revolutions, wheel *A* turns 5 revolutions. When wheel *A* turns 40 revolutions, how many revolutions does wheel *B* turn?**



A 4

B 16

C 80

D 100

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9 **The vice president of sales took a client out to lunch. If the lunch was $44 and she gave a 20% tip, how much money did she spend on lunch?**

A $8.80

B $35.20

C $52.80

D $53.80

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10 **If 50% of a number is 20, what is 75% of the number?**

A 8

B 15

C 30

D 45

11 What is $\frac{10}{11} \times \frac{11}{12}$?

A $\frac{5}{6}$

B $\frac{21}{23}$

C $1\frac{1}{120}$

D 2

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12 What is the product of $\frac{2}{5}$ and $\frac{4}{5}$?

A $\frac{1}{5}$

B $\frac{8}{25}$

C $\frac{1}{2}$

D $\frac{6}{5}$

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13 A group of hikers climbed from Salt Flats (elevation −55 feet) to Talon Bluff (elevation 620 feet). What is the difference in elevation between Talon Bluff and Salt Flats?

A 565 feet

B 575 feet

C 665 feet

D 675 feet

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14 $12 \div -3 =$

A 9

B 4

C $-\frac{1}{4}$

D -4

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15 One morning, the temperature was 5° below zero. By noon, the temperature rose 20° Fahrenheit (F) and then dropped 8°F by evening. What was the evening temperature?

A 17° below zero

B 15° below zero

C 12° above zero

D 7° above zero

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16 $-4 + (-3) =$

A -7

B -1

C 1

D 7

17 $\frac{3}{8}+\frac{1}{12}=$

A $\frac{1}{5}$

B $\frac{1}{6}$

C $\frac{11}{24}$

D $\frac{11}{48}$

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18 **What is the greatest common divisor of 54, 36, and 24?**

A 2

B 3

C 6

D 9

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19 **What value of k makes the following equation true?**

$$k \div 3 = 36$$

A 108

B 98

C 39

D 12

20 **The Sojourn family went on a vacation. They started with $2000. If they spent $150 each day, which expression represents how much money they had after x days?**

A $1850x$

B $2000-150x$

C $150x$

D $2000+150x$

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21 **Ellen had some change in her pocket. After her friend gave her $0.45, Ellen had $1.35 altogether. Which equation can she use to find the original amount of money, m, she had in her pocket?**

A $m+0.45=1.35$

B $1.35=m-0.45$

C $m=1.35\times0.45$

D $m+1.35=0.45$

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22 **Which algebraic equation best describes the total growth (T) in height of pine trees over a 3-year period, if g equals the rate of growth in centimeters per year?**

A $T=3g$

B $T=3+g$

C $T=\frac{g}{3}$

D $T=\frac{3}{g}$

23 **A telephone company charges $0.05 per minute for local calls and $0.12 per minute for long-distance calls. Which expression gives the total cost in dollars for x minutes of local calls and y minutes of long-distance calls?**

A $0.05x + 0.12y$

B $0.05x - 0.12y$

C $0.17(x + y)$

D $0.17xy$

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24 **The steps Quentin took to evaluate the expression $3m - 3 \div 3$ when $m = 8$ are shown below.**

$3m - 3 \div 3$ when $m = 8$
$3 \times 8 = 24$
$24 - 3 = 21$
$21 \div 3 = 7$

What should Quentin have done differently in order to evaluate the expression?

A divided $(24 - 3)$ by (24×3)

B divided $(24 - 3)$ by $(24 - 3)$

C subtracted $(3 \div 3)$ from 24

D subtracted 3 from $(24 \div 3)$

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25 $8 + 8 \div 2 + 2 =$

A 4

B 8

C 10

D 14

26 **How many inches are in $2\frac{1}{2}$ feet?**

A 24 inches

B 25 inches

C 29 inches

D 30 inches

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27 **It takes a machine 12 minutes to fill 200 bottles of soda. At this rate, how many minutes will it take the machine to fill 500 bottles of soda?**

A 25 minutes

B 28 minutes

C 30 minutes

D 40 minutes

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28 **Trish's resting heart rate is 50 beats per minute. For every minute she exercises, her heart rate increases 5 beats per minute. How long will it take her to reach a heart rate of 120 beats per minute?**

A 5 minutes

B 14 minutes

C 34 minutes

D 70 minutes

29 **Marcus spent $3.25 to wash his car. If one quarter operates the car wash for 60 seconds, how long did it take him to wash his car?**

A 10 minutes

B 13 minutes

C 16 minutes

D 32.5 minutes

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30 **A car gets 24 miles per gallon of gasoline (mi/gal). How many gallons of gasoline would the car need to travel 144 miles?**

A 6.5 gallons

B 6 gallons

C 5.5 gallons

D 5 gallons

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31 **Jerry read a 200-page book in 10 hours. At that rate, how long will it take him to read a 320-page book?**

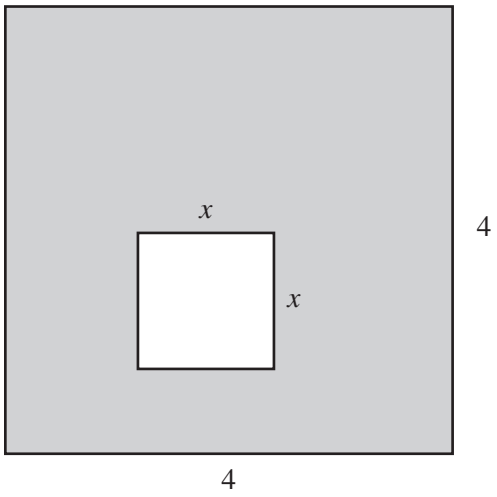
A 16 hours

B 18 hours

C 24 hours

D 32 hours

32 **A square with a side of x is inside a square with a side of 4, as pictured below. Which expression represents the area of the shaded region in terms of x?**



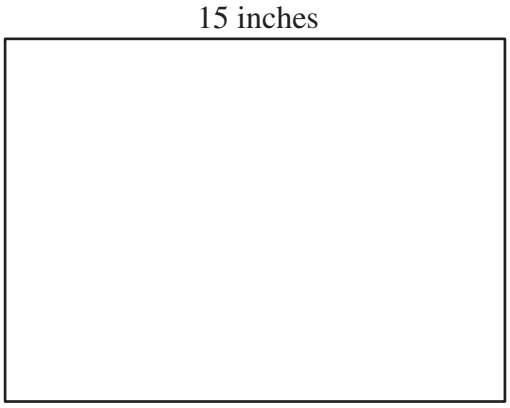
A $16 + x^2$

B $16 - x^2$

C $16 - 2x$

D $16 - 4x$

33 **The rectangle shown below has length 15 inches and perimeter *P* inches.**



Which equation could be used to find the width of the rectangle?

A $P = 15 + \frac{w}{2}$

B $P = 15 - w$

C $P = 30 + 2w$

D $P = 30 - 2w$

34 **Which equation could be used to find the area in square inches of a circle with a radius of 8 inches?**

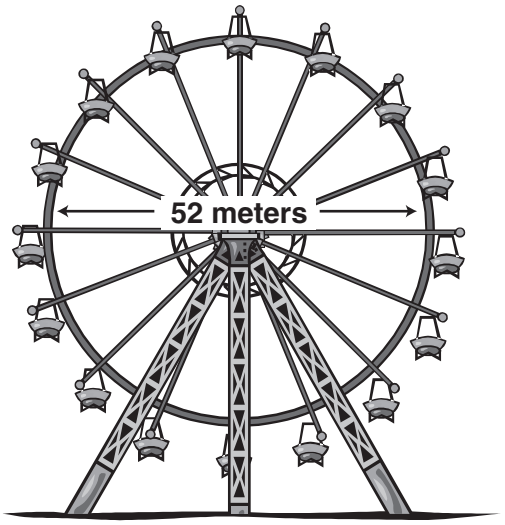
A $A = 4 \times \pi$

B $A = \pi \times 4^2$

C $A = 8 \times \pi$

D $A = \pi \times 8^2$

35 **A Ferris wheel at the local fair has a diameter of 52 meters. Which expression can be used to find its circumference, *C*, in meters?**



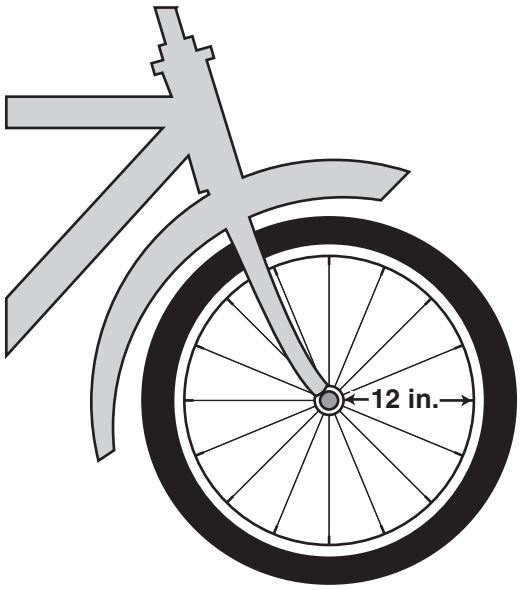
A $C = 26 \times \pi$

B $C = 52 \times \pi$

C $C = 2 \times 52 \times \pi$

D $C = 26^2 \pi$

36 **A bicycle wheel has an inside radius of 12 inches. Which expression could be used to find the inside circumference of this wheel?**



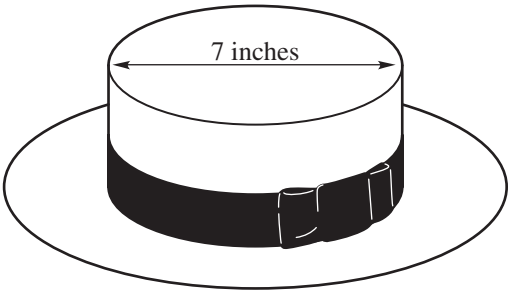
A $2 \times 6 \times \pi$

B $2 \times 12 \times \pi$

C $9 \times 9 \times \pi$

D $12 \times 12 \times \pi$

37 **The top part of this hat is shaped like a cylinder with a diameter of 7 inches.**



Which measure is *closest* to the length of the band that goes around the outside of the hat?

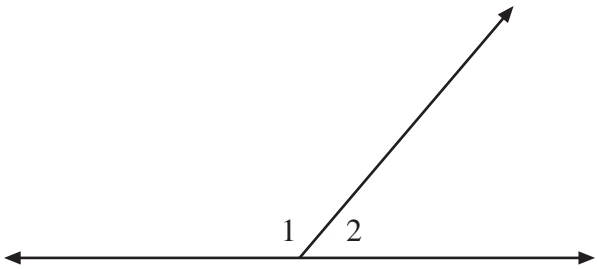
A 10.1 inches

B 11.0 inches

C 22.0 inches

D 38.5 inches

38 **Which is a true statement about angles 1 and 2 shown below?**



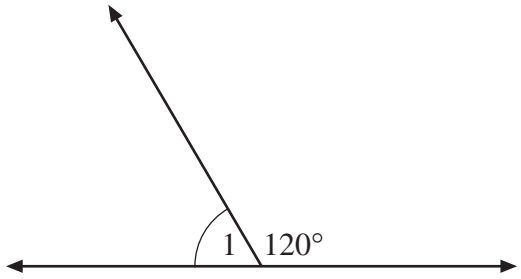
A $\angle 1$ is complementary to $\angle 2$.

B $\angle 1$ is supplementary to $\angle 2$.

C Both angles are obtuse.

D Both angles are acute.

39 **What is the measure of angle 1 in the figure below?**



A 30°

B 40°

C 60°

D 80°

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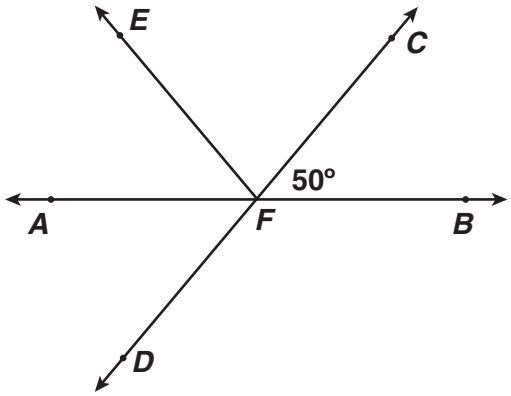
40 **In the figure below, $\overleftrightarrow{CD}$ intersects $\overleftrightarrow{AB}$ at F, $m\angle CFB = 50^\circ$, and $\angle EFA \cong \angle AFD$. What is $m\angle EFC$?**



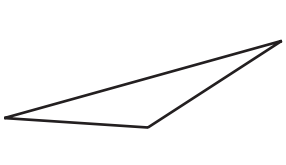
A 40°

B 50°

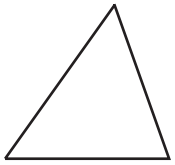
C 70°

D 80°

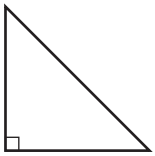
41 **Which figure is an acute triangle?**



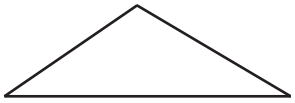
A



C



B



D

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42 **Abe found the mean and median of this list of numbers.**

1, 3, 3

If the number 6 were added to the list, then

A the mean would increase.

B the mean would decrease.

C the median would increase.

D the median would decrease.

43 **Wendy wants to take a survey to determine which flavor of ice cream is the most popular at her school. Which of the following methods is the *best* way for her to choose a random sample of the students at her school?**

A selecting ten students from each homeroom

B selecting members of the girl's softball team

C selecting members of the boy's basketball team

D selecting students who like her favorite flavor of ice cream

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44 **The table shows the annual profit for five companies.**

2003 Profits

Company	Profit
I	$300,000
II	$275,000
III	$250,000
IV	$325,000
V	$300,000

Which statement is valid about the annual profits of these five companies?

A Companies II and V made the same profit.

B No company made less than $275,000 profit.

C No company made more than $300,000 profit.

D Company IV made $75,000 more profit than Company III.

45 **Ms. Hatley is going to choose one person from each of the two lists below to represent the class in student council.**

List 1
Ann
Carlos
Lisa

List 2
Dave
Mia

Which set shows *all* the possible choices of two people?

A {(Ann, Carlos), (Ann, Lisa)}

B {(Ann, Dave), (Ann, Mia)}

C {(Ann, Dave), (Carlos, Mia), (Lisa, Dave), (Lisa, Mia)}

D {(Ann, Dave), (Ann, Mia), (Carlos, Dave), (Carlos, Mia), (Lisa, Dave), (Lisa, Mia)}

46 **The table shows how many T-shirts of each color Paul has in his closet.**

Color	Number of Shirts
Green	3
Red	4
White	5
Blue	8
Total	20

If Paul chooses a T-shirt without looking, what is the probability that it will be blue?

A 4%

B 8%

C 40%

D 60%

47 **Mason has 10 black, 12 white, and 3 brown pairs of socks in one drawer. What is the probability that, without looking, Mason will pick a brown pair of socks from the drawer?**

A 4%

B 12%

C 14%

D $33\frac{1}{3}\%$

48 **In her pocket, Kira has 2 red marbles, 2 green marbles, and 2 blue marbles that are all the same size. If Kira picks one marble out of her pocket without looking, what is the probability that it will be either red or green?**

A $\frac{1}{6}$

B $\frac{1}{3}$

C $\frac{1}{2}$

D $\frac{2}{3}$