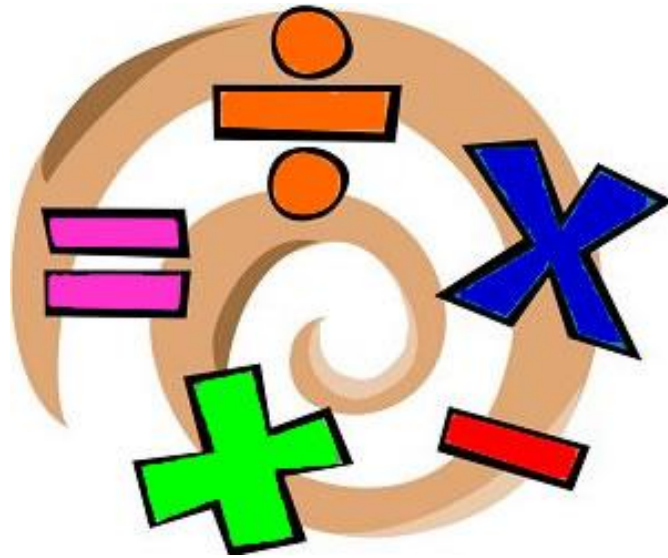


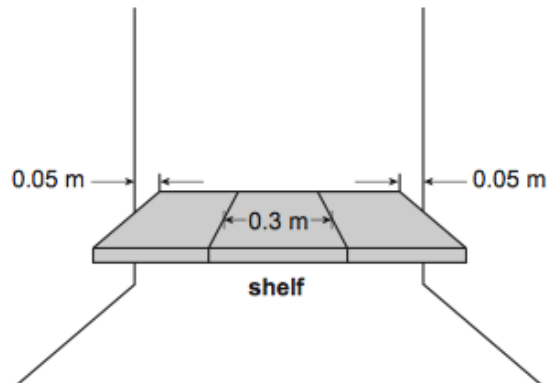
**7th Grade SC READY Like
Math Summative Assessment #2
Calculator Section**



Student Name

Date

1. Joslyn built the shelf shown below to fit into a narrow closet.



The shelf is made of 3 pieces of wood, each 0.3 meter wide. There is also 0.05 meter of space between the shelf and the wall on each side. What is the width, in meters, of Joslyn's closet?

- A. 0.4
B. 0.8
C. 1
D. 1.9
2. Multiply: $\frac{7}{8} \times 1\frac{2}{3}$
- A. $1\frac{11}{24}$
B. $1\frac{7}{12}$
C. $1\frac{19}{21}$
D. $2\frac{1}{3}$
3. Which value is equivalent to $0.45 \div \frac{9}{10}$?
- A. $\frac{81}{200}$
B. $\frac{1}{2}$
C. 40.5
D. 50
4. Which estimate is **closest** to the value of $3\frac{7}{8} \times 5\frac{1}{16}$?
- A. 15
B. 18
C. 20
D. 24

5. Which expressions have products that are positive? Select **all** that apply.

Ⓐ $(-5)(0.2)(-9)$

Ⓑ $\left(\frac{2}{3}\right)\left(\frac{3}{2}\right)\left(-\frac{1}{2}\right)$

Ⓒ $(6)(-3)(8)(-7)$

Ⓓ $\left(-4\frac{1}{3}\right)\left(-\frac{1}{4}\right)\left(-5\frac{1}{2}\right)\left(-\frac{7}{9}\right)$

Ⓔ $\left(\frac{5}{6}\right)(-10)\left(3\frac{4}{5}\right)(2)$

Ⓕ $(-1.2)(-3.5)(2.7)(-0.8)$

6. Ty is determining the value of the expression to the right. $-0.25(-3.25 + 5.65)$

Which shows two expressions that are equivalent to Ty's expression?

A. $-0.25(8.9)$ and $\frac{-5.65}{4} + \frac{3.25}{4}$

B. $13 + 22.6$ and $-25(2.4) \div 100$

C. $-(2/4 + 0.4/4)$ and $-25(-325 + 565)$

D. $2.4 \div (-4)$ and $-0.25[(-3.25 + 3.25) + 2.4]$

7. After a party, there are parts of three pizzas remaining. There is $\frac{3}{4}$ of a pepperoni pizza remaining, $\frac{5}{8}$ of a cheese pizza remaining, and $\frac{11}{12}$ of a sausage pizza remaining. The 5 friends who organized the party split the remaining pizza equally. What fraction of a whole pizza does each person get?

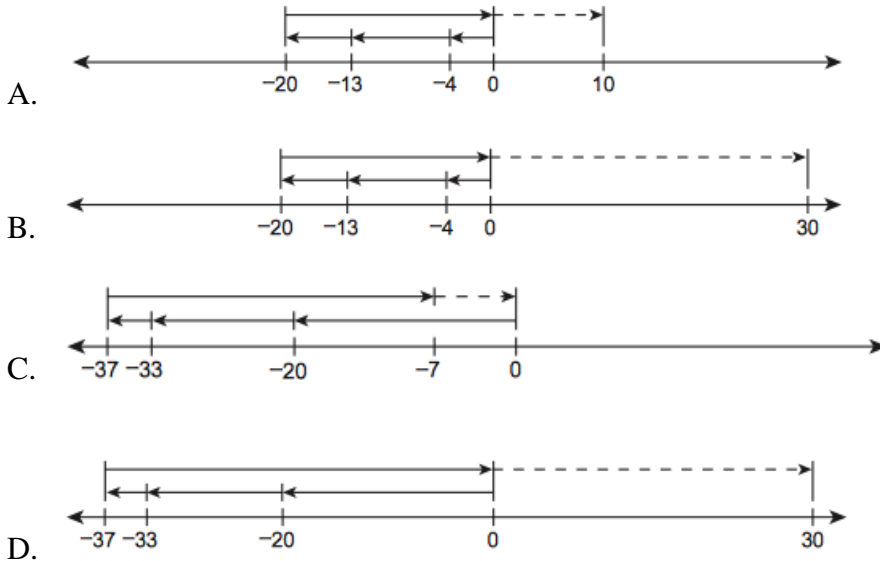
A. $\frac{5}{24}$

B. $\frac{11}{24}$

C. $\frac{1}{2}$

D. $\frac{11}{20}$

8. Corrine plans to spend \$20 on a new shirt, \$13 on dinner, and \$4 on a bus ticket. She knows that she will earn \$30 for baby-sitting. Which number line represents a strategy for determining how many more dollars Corrine needs to earn so that she earns exactly as much as she plans to spend?



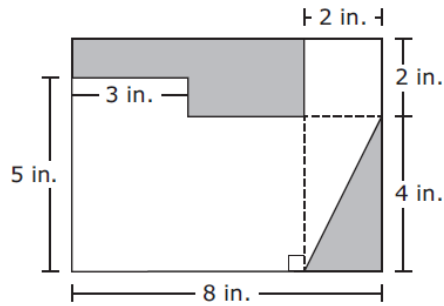
9. Keyana put 0.83 liter of water into a bucket. Matt put 0.98 liter of water into another bucket. When they combined their water into a bigger bucket, 10% of the water spilled out. The water they collected had a weight of 1.021 kilograms per liter of water. The expression shown below represents the weight, in kilograms, of the water in the bigger bucket.

$$[0.9(0.83 + 0.98)] \times 1.021$$

Rounded to the nearest thousandth, what is the weight, in kilograms, of the water in the bigger bucket?

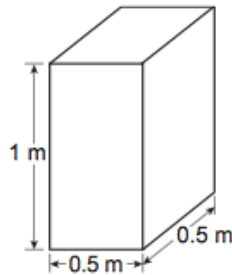
- A. 1.663
 B. 1.748
 C. 1.763
 D. 1.848

10. This figure shows two shaded regions and a non-shaded region. Angles in the figure that appear to be right angles are right angles.



What is the area, in square inches, of the triangular-shaped region that is shaded in this figure? Enter your answer in the box.

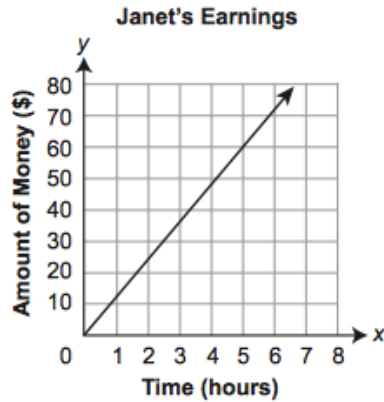
11. Simon is filling the water tank shown below.



After 2 minutes, the tank is filled up to $\frac{1}{5}$ of its height. What is the rate, in cubic meters per minute, at which Simon is filling up the water tank?

- A. 0.025
 - B. 0.050
 - C. 0.100
 - D. 0.125
12. Kenneth is making chocolate cakes. For each cup of milk he uses, he needs to use $1\frac{3}{4}$ cups of flour. For each cup of flour he uses, he needs to use $\frac{3}{7}$ cup of cocoa powder. Kenneth is making enough cakes that he needs to use 4 cups of milk. How many cups of cocoa powder does Kenneth need to use?
- A. $\frac{3}{28}$
 - B. $\frac{12}{7}$
 - C. 3
 - D. 7

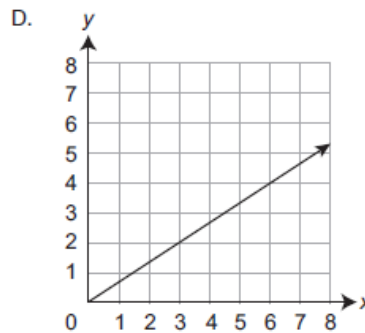
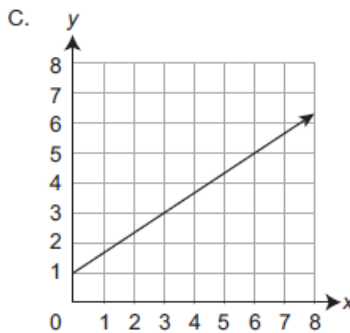
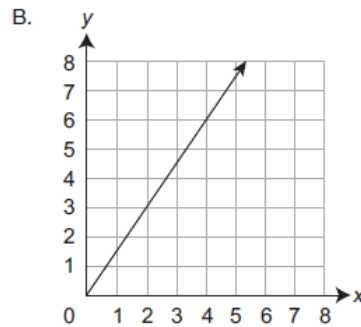
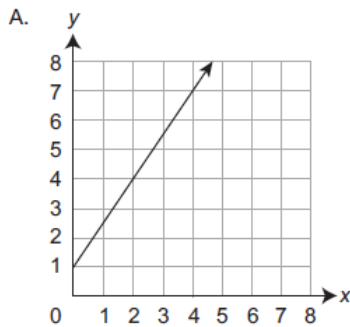
13. The graph below models the relationship between the time (x), in hours, Janet works and the amount of money (y), in dollars, she earns.



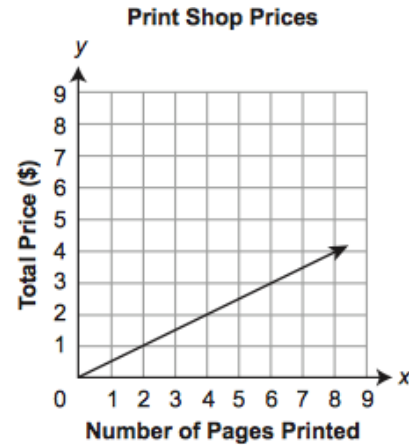
Which statement explains how Janet knows that the number of hours she works and the amount of money she earns are proportionally related?

- A. The graph is a straight line with a positive slope.
- B. The graph is a straight line that passes through (0, 0).
- C. The graph is a straight line that passes through (1, 12.5).
- D. The graph is a straight line with no negative x or y values.

14. Which graph shows a proportional relationship with a unit rate of $\frac{3}{2}$?



15. The graph below shows the relationship between the number of pages printed (x) at a print shop and the total price (y), in dollars.



Based on the graph, what is the unit price at the print shop?

- A. \$0.10 per page
 - B. \$0.20 per page
 - C. \$0.25 per page
 - D. \$0.50 per page
16. Misha has a cube and a right-square pyramid that are made of clay. She placed both clay figures on a flat surface.

Misha will make slices through each figure that are parallel and perpendicular to the flat surface. Which statements are true about the two-dimensional plane sections that **could** result from one of these slices?

Select **all** that apply.

- Ⓐ A plane section that is triangular could result from one of these slices through the cube.
- Ⓑ A plane section that is square could result from one of these slices through the cube.
- Ⓒ A plane section that is rectangular but not square could result from one of these slices through the cube.
- Ⓓ A plane section that is triangular could result from one of these slices through the pyramid.
- Ⓔ A plane section that is square could result from one of these slices through the pyramid.
- Ⓕ A plane section that is rectangular but not square could result from one of these slices through the pyramid.

17. The table below shows the relationship between the number of water bottles at a park that are thrown away and the number of water bottles at the park that are recycled for each of five months.

Water Bottles at a Park

Month	Water Bottles Thrown Away	Water Bottles Recycled
1	40	12
2	50	15
3	80	24
4	110	33
5	140	42

Which statement correctly describes the relationship between the number of water bottles that are thrown away and the number of water bottles that are recycled at the park each month?

- A. The relationship is proportional. For every 3 bottles that are thrown away each month, 10 bottles are recycled.
 - B. The relationship is proportional. For every 10 bottles that are thrown away each month, 3 bottles are recycled.
 - C. The relationship is not proportional. The number of water bottles that are thrown away increases more from month to month than the number of water bottles that are recycled.
 - D. The relationship is not proportional. The difference between the number of bottles that are thrown away and the number of bottles that are recycled is not the same for each month.
18. A technician tests batteries for a battery manufacturer several times each week. She determines that the number of defective batteries is proportional to the number of batteries tested. The table below shows the numbers of batteries the technician tested at two different times during week 1 and the number of defective batteries she found each time.

Battery Test Results for Week 1

Number Tested	Number Defective
160	4
600	15

Between week 1 and week 2, the battery manufacturer changed its process. The number of defective batteries is still proportional to the number of batteries tested, but the constant of proportionality is greater. The technician tested 480 batteries during week 2 and found that 18 were defective. By what percent did the constant of proportionality increase?

- A. $33\frac{1}{3}\%$
- B. 50%
- C. $66\frac{2}{3}\%$
- D. 125%

19. A concert hall sells tickets in three different price ranges. For each price range, there are both adult and child rates.

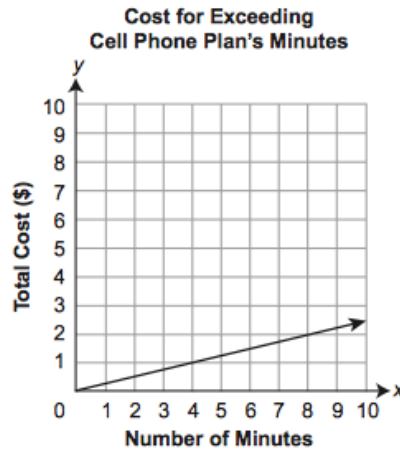
Concert Hall Prices	
Adult Tickets	Child Tickets
\$82.00	\$20.50
\$56.00	\$14.00
\$36.00	\$9.00

Which statement describes the relationship between the adult ticket prices (a), in dollars, and the child ticket prices (c), in dollars?

- A. The relationship is proportional. It can be represented as $c = \frac{1}{4}a$.
- B. The relationship is proportional. It can be represented as $c = 4a$.
- C. The relationship is not proportional. The change in a is not constant, and therefore the relationship cannot be expressed as one equation.
- D. The relationship is not proportional. The change in c is not constant, and therefore the relationship cannot be expressed as one equation.
20. Rebecca and Megan are shopping at a store that sells jewelry, scarves, and purses. The cost of all the items at the store include tax.

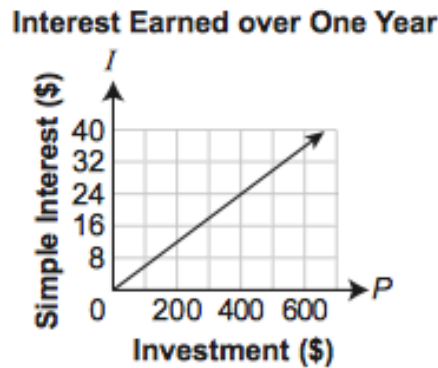
Megan buys 3 bracelets and 3 necklaces. Each bracelet costs \$5. Megan pays the clerk \$40 and gets \$4 change. What is the cost, in dollars, of one necklace? Enter your answer in the box.

21. When Rachel exceeds the number of minutes on her cell phone plan, she is charged an extra cost for each minute. The graph below shows the total cost (y), in dollars, for exceeding her cell phone plan's minutes by x minutes.



What does the y -coordinate represent when the x -coordinate has a value of 1?

- A. Rachel pays \$0.25 for each minute she exceeds her cell phone plan's minutes.
 - B. Rachel pays \$0.50 for each minute she exceeds her cell phone plan's minutes.
 - C. Rachel pays \$1.00 for each minute she exceeds her cell phone plan's minutes.
 - D. Rachel pays \$4.00 for each minute she exceeds her cell phone plan's minutes.
22. The graph below represents the amount of simple interest (I), in dollars, earned on an investment of P dollars over one year. The interest rate is r .



An investment of \$600 at a different interest rate (q) will earn \$24 in simple interest over one year. Which statement about interest rates r and q is true?

- A. Interest rate r is 2% greater than interest rate q .
- B. Interest rate r is 8% less than interest rate q .
- C. Interest rate q is 12% less than interest rate r .
- D. Interest rate q is the same as interest rate r .

23. Ryan is training for a bicycle race.

- The distance he rides is $44\frac{1}{2}$ miles long.
- He rides a portion of the distance at a slow speed both to warm up and to cool down.
- Ryan rides $\frac{4}{5}$ of the distance at a fast speed for training.
- Of the slow-speed portion, $\frac{1}{3}$ is for the warm-up.

Which estimate is **closest** to the distance, in miles, Ryan rides to cool down?

- A. 3
- B. 6
- C. 9
- D. 12

24. The pressure on an object that is underwater increases by 4.3 pounds per square inch for every 10 feet the depth of the object increases. The equation below represents this relationship.

$$y = 0.43x + 14.7$$

Based on the relationship, which statement about the variable x in the equation is true?

- A. The variable x is the dependent variable in the relationship and represents the depth, in feet, of the object.
- B. The variable x is the independent variable in the relationship and represents the depth, in feet, of the object.
- C. The variable x is the dependent variable in the relationship and represents the pressure, in pounds per square inch, on the object.
- D. The variable x is the independent variable in the relationship and represents the pressure, in pounds per square feet, on the object.

25. Kyle sold an antique through an online auction website. The website host charged Kyle \$15, plus 2.5% of the final selling price of the antique. After selling the antique, Kyle had to pay the website host \$32. What was the final selling price of the antique?

- A. \$68
- B. \$600
- C. \$680
- D. \$1,280

26. Mary earned \$35.00 for walking her neighbor's dogs.

- Mary charged a flat fee of \$5.00 to walk the dogs.
- Mary also charged \$2.50 for each $\frac{1}{4}$ hour she walked the dogs.

For exactly how many hours did Mary walk her neighbor's dogs?

- A. 3
- B. 4
- C. 6
- D. 12

27. Mr. Jones is taking his family to see a play. There are 10 people going to the play, and they take 2 cars. Mr. Jones pays \$5.50 for parking for each car. He pays the same price for each ticket. Mr. Jones is charged a total of \$142.00 for tickets and parking. What is the price of each ticket to the play?

- A. \$6.55
- B. \$13.10
- C. \$13.65
- D. \$14.20

28. Students in a dance class filled out a survey. There were 25 girls and some boys who participated in the survey. The results showed that 20% of the students prefer tap dance to ballroom dance. There are 9 students who prefer tap dance. Which equation can be used to find the number of boys (x) who participated in the survey?

- A. $0.2x + 25 = 9$
- B. $0.2(x + 25) = 9$
- C. $0.2(25 - 9) = x$
- D. $25 + x = 0.2 \times 9$

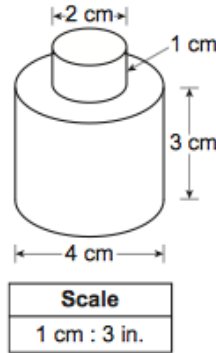
29. A real estate agent earns \$2,000 per month plus 5% of the selling price of each house sold. The agent wants to earn more than \$60,000 this year. Which inequality represents the possible combined selling price (x) of all the houses sold during the year for the real estate agent to meet his goal?

- A. $x > 11,600$
- B. $x > 180,000$
- C. $x > 720,000$
- D. $x > 1,160,000$

30. Heidi must correctly answer at least 80% of the questions on an exam to advance to the next level in her online course. Heidi has already correctly answered 26 questions and incorrectly answered 4 questions. How many of the 15 questions remaining must Heidi correctly answer to advance to the next level?

- A. At least 10
- B. At least 11
- C. At least 12
- D. At least 13

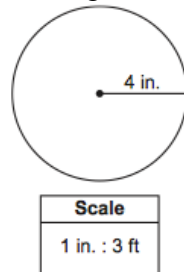
31. A machine part consists of two cylinders aligned along the same vertical axis. A scale drawing of the part is represented below.



The part is cut in half through the vertical axis. What is the total area, in square inches, of the actual two-dimensional cross-section that is the result of the cut?

- A. 42 sq in.
- B. 72 sq in.
- C. 126 sq in.
- D. 216 sq in.

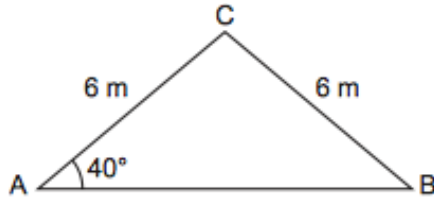
32. A city is building a new pool. A scale drawing of the pool is shown below.



What is the area, in square feet, of the pool?

- A. 16π
- B. 24π
- C. 48π
- D. 144π

33. Triangle ABC is shown below.

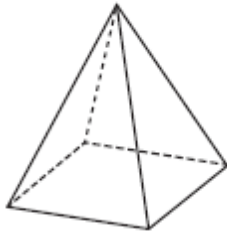


What is the measure of angle C?

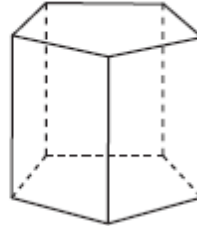
- A. 40°
- B. 90°
- C. 100°
- D. 140°

34. A three-dimensional solid is sliced by a plane perpendicular to a base of the solid. The result of the slice is an isosceles trapezoid. Which figure could be the three-dimensional solid?

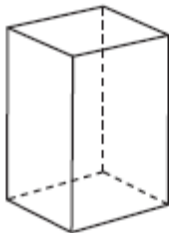
A.



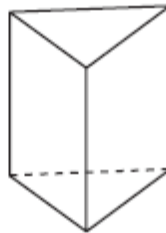
B.



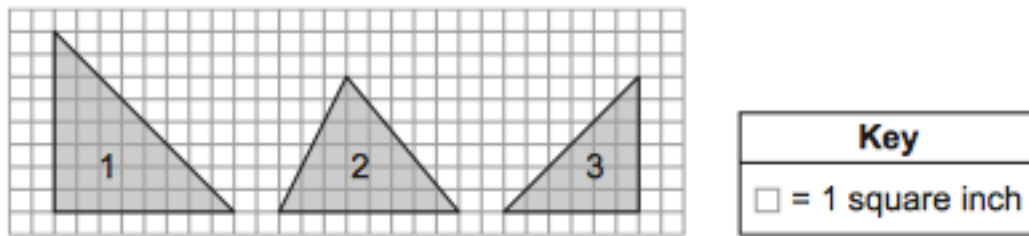
C.



D.

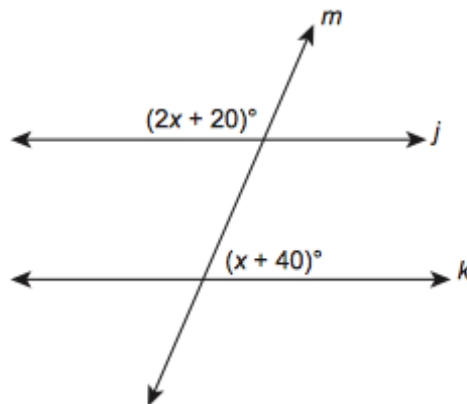


35. Mika will use copies of one of the triangles shown in the diagram below to cover a rectangular poster as completely as possible.



The poster is 12 inches wide and has an area of 480 square inches. The triangle Mika will use is isosceles. The copies are all full size and do not overlap on the poster. Which set of statements identify the triangle Mika should use to cover the poster as completely as possible and the area of the poster that will remain uncovered?

- A. Mika should use triangle 1, and no portion of the poster will remain uncovered.
 - B. Mika should use triangle 2, and no portion of the poster will remain uncovered.
 - C. Mika should use triangle 3, and 48 square inches of the poster will remain uncovered.
 - D. Mika should use triangle 3, and 12 square inches of the poster will remain uncovered.
36. In the figure shown below, lines j and k are parallel.

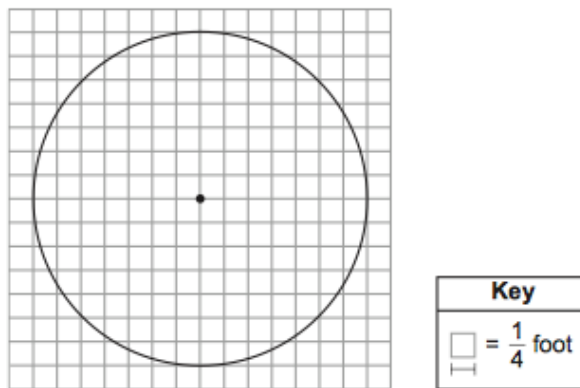


Which equation can be used to find the value of x in the figure?

- A. $(x + 40) = (2x + 20)$
- B. $2(x + 40) = 2x + 20$
- C. $(x + 40) + (2x + 20) = 90$
- D. $(x + 40) + (2x + 20) = 180$

37. A circular lampshade with a diameter of 14 inches has a length of wire that goes around it exactly one time. How many inches of wire are needed to go around the lampshade exactly one time?
- A. 7π
 - B. 14π
 - C. 49π
 - D. 196π

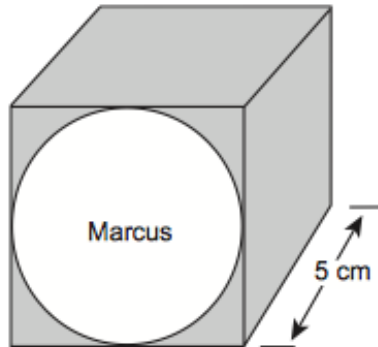
38. The figure below represents a circular fountain.



Rounded to the nearest square foot, what is the area of the fountain?

- A. 10
 - B. 11
 - C. 38
 - D. 44
39. Shannon has several cubes. Each cube is 3 feet high. Shannon covers all but one face of each cube with foil. She uses a total of 360 square feet of foil to cover the faces. How many cubes does Shannon have?
- A. 8
 - B. 10
 - C. 24
 - D. 40

40. Marcus wants to decorate his box that is in the shape of a cube. He decides to cover the entire box with red colored paper except the circle with his name on it. The box is shown below.



Rounded to the nearest square centimeter, how much red paper is needed to cover Marcus's box?

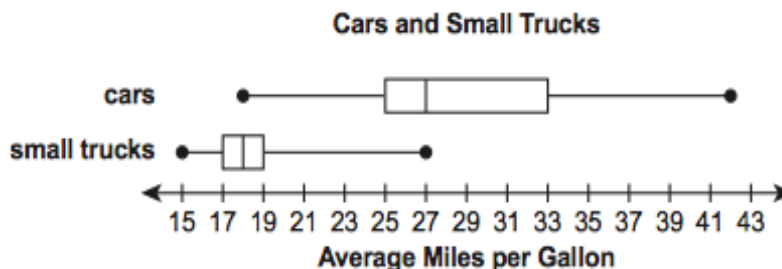
- A. 72
B. 105
C. 130
D. 150
41. Four candidates are running for school president. A random sample of students at the school are surveyed about which of the candidates they are likely to choose. The chart below shows the number of students from the random sample who chose each candidate.

School Election Survey			
Deb	Janelle	Rasheed	Terry
10	20	12	8

A total of 800 students are expected to vote in the election for school president. Based on the information shown in the chart, which election outcome is **most likely**?

- A. Rasheed will win with 192 votes.
B. Rasheed will win with 189 more votes than he had in the survey.
C. Janelle will win with 8 more votes than the second-place finisher, Rasheed.
D. Janelle will win with 128 more votes than the second-place finisher, Rasheed.

42. The miles-per-gallon averages for random samples of cars and of small trucks are shown in the box-and-whisker plots below.



Based on the box-and-whisker plots, which statement about the miles-per-gallon averages of the cars and small trucks is **most likely** true?

- A. About 50% of the cars and 50% of the small trucks get between 18 and 27 miles per gallon.
 - B. About 50% of the cars and 25% of the small trucks get between 25 and 33 miles per gallon.
 - C. About 75% of the cars get a greater average number of miles per gallon than any small truck in the small truck sample.
 - D. About 75% of the small trucks get a lesser average number of miles per gallon than the least number of average miles per gallon of any car in the car sample.
43. A computer scientist writes a program to generate single-digit and double-digit numbers using the digits 1 and 2. The probabilities the scientist used in the program are shown in the table below.

Numbers Generated	
Description	Probability
single-digit number containing only 1	$\frac{3}{10}$
single-digit number containing only 2	$\frac{3}{10}$
double-digit number containing only 1s	$\frac{1}{10}$
double-digit number containing only 2s	$\frac{1}{10}$
double-digit number containing a 1 and a 2	$\frac{1}{5}$

Which statement about the likelihood of a number being generated by the program is true?

- A. The program is unlikely to generate a double-digit number.
- B. The program is more likely to generate a single-digit number than a double-digit number.
- C. The program is equally likely to generate a single-digit number as a double-digit number.
- D. The program is more likely to generate a double-digit number containing only 1s or only 2s than a double-digit number containing a 1 and a 2.

44. The number of paper clips of each color in a box is shown in the table below.

Paper Clips in a Box	
Color	Number of Paper Clips
red	50
blue	75
green	100

Margo randomly selects 1 paper clip from the box, records its color, and returns it to the box. She does this 10 times. Which table shows experimental results from Margo's selections that are **closest** to the expected results when based on the probabilities of selecting a paper clip of each color from the box?

A. Margo's Selections

Color	Number of Times Selected
red	3
blue	3
green	4

B. Margo's Selections

Color	Number of Times Selected
red	1
blue	4
green	5

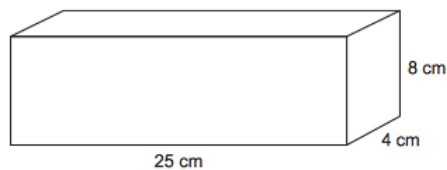
C. Margo's Selections

Color	Number of Times Selected
red	0
blue	2
green	8

D. Margo's Selections

Color	Number of Times Selected
red	1
blue	5
green	4

45. A carpenter will make a single, straight cut through the rectangular prism shown below by randomly choosing a face and cutting parallel to that face. The cut will be a whole number of centimeters from the chosen face.



What is the probability that the area, in square centimeters, of the cross section created by the cut will **not** be a multiple of 100?

- A. 0
- B. $\frac{1}{3}$
- C. $\frac{2}{3}$
- D. 1

46. Keisha has a bag containing blue, green, orange, and red marbles. The number of marbles of each color is shown in the table below.

Marble Colors	
Color	Numbers of Marbles
Blue	75
Green	50
Orange	100
Red	25

Keisha randomly selects 1 marble from the bag, records its color, and returns the marble to the bag. She does this three times. What is the probability Keisha selects a red marble, then a green marble, and then a blue or orange marble?

- A. $\frac{3}{500}$
- B. $\frac{7}{500}$
- C. $\frac{7}{108}$
- D. $\frac{4}{25}$

47. Carla uses a special 12-sided number polyhedron for some experiments. Some information about the polyhedron is listed below.

- There is a $\frac{1}{3}$ probability that Carla will roll a number that is a multiple of 3.
- There is a $\frac{5}{12}$ probability that Carla will roll a prime number.

Carla rolls her 12-sided number polyhedron two times. What is the probability that Carla rolls a multiple of 3 on her first roll, and a number that is **not** a prime number on her second roll?

- A. $\frac{5}{36}$
- B. $\frac{7}{36}$
- C. $\frac{5}{18}$
- D. $\frac{7}{18}$