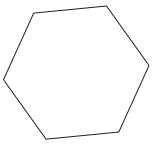
Warm-Up 1

1. _____ % A cake with a regular hexagonal top is sliced along each of its 9 diagonals. What percent of the resulting 24 pieces are triangles?



2. _____ calories Rocky's family recipe for macaroni and cheese makes 4 servings of 310 calories each. Rocky decided to make $1\frac{1}{2}$ times the amount in the recipe. How many calories are in Rocky's batch of macaroni and cheese?

3. _____ inches

Alberto's dad is 6 feet 3 inches tall, and his mother is 5 feet 7 inches tall. One method used to predict a young child's adult height is to take the average of the mother's height and the father's height. Using this method, what is Alberto's expected adult height, in inches?

4. _____ dots If the dot pattern shown here is continued, how many dots will there be in Figure 5?

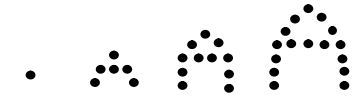


Figure 1 Figure 2 Figure 3 Figure 4

5. $ _____ The toll for a major highway is 8 cents for every 5 miles traveled. What is the toll, in dollars, for a trip of 115 miles on this highway?

6. _____ % A candle 25 cm tall burns at the rate of 5 cm per hour. What percent of the original candle is left after it has burned for 2 hours?

7. _____

If a fair coin is flipped 17 times, what is the probability that the number of heads will equal the number of tails?

8. _____ units Two squares, each with an area of 25 units^2, are placed side-by-side to form a rectangle. What is the perimeter of the rectangle?

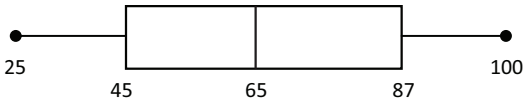
9. _____ students The ratio of girls to boys in the seventh grade at Hypatia Middle School is 3:2. There are 134 boys in the seventh grade. What is the total number of students in the seventh grade at Hypatia Middle School?

10. $ _____ When Johanna and Klara ate at their favorite restaurant, the subtotal was $26.40. A 7% tax and an 18% tip were added to the bill, both applied to the subtotal. What was the total cost, including tax and tip?

Warm-Up 2

11. _____ Half of a third of x equals a fourth of y plus a fifth of y. If $x = 27$, what is the value of y?

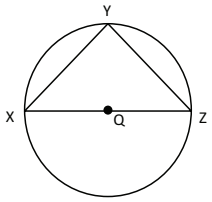
12. _____ What is the positive difference between the range and the interquartile range of the data set represented by this box-and-whisker plot?



13. _____ If x and y are positive integers such that $x^y = 8$, what is the maximum possible value of $x + y$?

14. _____ jars If 1 bucket + 5 jars = 1 tub, and 3 buckets + 2 jars = 2 tubs, how many jars are equal to 1 tub?

15. _____ in^2 Isosceles triangle XYZ is inscribed in circle Q, as shown. If diameter XZ is 2 inches, what is the area of ΔXYZ?



16. _____ plates A state creates license plates that each contain two letters followed by three digits. The first letter must be a vowel (*A*, *E*, *I*, *O*, *U*), and duplicate letters and digits are allowed. How many different license plates are possible?

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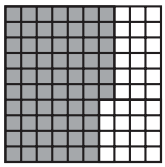
17. _____ % What percent of the first 50 positive integers contain no odd digits?

18. _____ %



What percent of the grid shown here is not shaded?

19. _____ For what positive integer n is $2n + 3n + 4n = n^n$?

20. $_____ At Hall of Oats, yogurt-covered raisins sell for $3.99 per pound. How much will $33\frac{1}{3}$ pounds of yogurt-covered raisins cost?