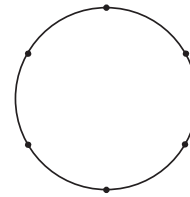




# Warm-Up 13

1. \_\_\_\_\_ Six points are equally spaced around a circle. If three of the points are selected at random, what is the probability that they form a scalene triangle? Express your answer as a common fraction.



2. \_\_\_\_\_ Point P is on the  $y$ -axis and is equidistant from the points (1, 3) and (7, 5). What is the  $y$ -coordinate of point P?

3. \_\_\_\_\_ am



A manufacturing plant periodically opens a large valve at the top of a tank to pump water into the tank for use in a manufacturing process. When the valve is opened, water is pumped into the tank at a rate of 75 gallons per minute. Another valve, at the bottom of the tank, sends water out of the tank to an assembly line at a rate of 24 gallons per minute. Both valves are opened simultaneously at 7:30 am and begin filling the empty tank. At what time, to the nearest minute, will the tank be filled to its 600-gallon capacity?

4. \_\_\_\_\_ A set of 5 positive integers has a mean of 11, a median of 10 and a unique mode of 7. What is the greatest possible range of the set of integers?

5. \_\_\_\_\_ A jar contains \$5.00 in quarters, \$5.00 in dimes, \$5.00 in nickels and \$5.00 in pennies. If Connie randomly chooses one coin from the jar, what is the probability that the coin chosen is a dime? Express your answer as a common fraction.

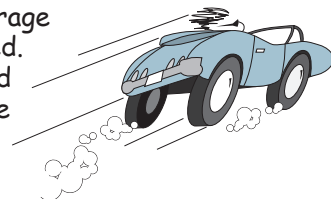
6. \_\_\_\_\_ Marketing analysts are investigating cylindrical packaging for a new beverage called Star Juice. One member of the design team proposed a can that has a diameter of 6 cm and a height of 20 cm. Another suggested a can that is 17 cm tall and has a diameter of 8 cm. What is the ratio of the smaller volume to the larger volume? Express your answer as a common fraction.

7. \_\_\_\_\_ values For how many integer values of  $x$  is the following inequality true?  $-5 \leq 2x - 7 \leq 21$

8. \_\_\_\_\_ The figure shown is a net of a cube. When folded to form a cube, what is the largest sum of two numbers on opposite faces?



9. \_\_\_\_\_ miles Yesterday Alice drove one hour longer than Bob at an average speed that was five miles per hour faster than Bob's speed. Clark drove two hours longer than Bob at an average speed that was ten miles per hour faster than Bob's speed. Alice drove 50 miles more than Bob. How many more miles than Bob did Clark drive?



10. \_\_\_\_\_ units In right triangle ABC, the median to the hypotenuse has length 15 units and the altitude to the hypotenuse has length 12 units. What is the length of the shorter leg of triangle ABC? Express your answer in simplest radical form.