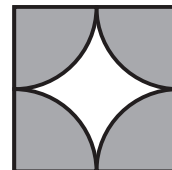


Warm-Up 4

1. \$ _____ The shipping cost of a dozen lemons is directly proportional to how many miles they are shipped. A dozen lemons shipped the 200 miles to Taraville cost \$5 to ship. How much will it cost to ship a dozen lemons 1000 miles?



2. _____ sq cm Four congruent quarter-circles are drawn inside a square of side length 4 centimeters, as shown. What is the area of the shaded portion of the square region? Express your answer in terms of π .



3. _____ ways If all of the letters of the word BEEP are used, in how many different ways can the four letters be arranged in a four-letter sequence? The two Es are indistinguishable.
4. _____ What is the greatest possible value of a in the system of equations $5a + 2b = 0$ and $ab = -10$?
5. _____ hours Office Surplus promises delivery of orders within three working hours of receipt of any order. Working hours are 8 a.m. to 5 p.m., Monday through Friday. Clyde's order is received at 3 p.m. on a Friday and takes the maximum promised number of working hours to be delivered. How many actual hours elapse from the time the order is placed until it is delivered?
6. _____ integers How many positive integers less than 1000 can be written using only the digits 0, 1 and 2? Two such integers to include are 101 and 12.
7. _____ Friday the 13ths The first day of the year 2006 was a Sunday. How many Friday the 13ths were there in 2006?
8. _____ What is the value of $(4^3) \div (2^2)$? Express your answer in the form a^b where a and b are positive integers and a has the least possible value.
9. _____ Several points are plotted on a graph. For each point, the x -coordinate is the length of a side of a square while the y -coordinate is the perimeter of that same square. One such point is (2, 8) since a square with side length 2 units has a perimeter of 8 units. What is the slope of the line connecting the points? Express your answer in simplest form.
10. _____ sq units Triangle ABC has side lengths 5, 5 and 8 units. Triangle XYZ has side lengths 5, 5 and 6 units. What is the difference of the areas of these two triangles?

