# Numeric Entry Test 11

1. The area of a rectangle with sides x and 3x, is how many times greater than the area of a right angled isosceles triangle with side x?

2. If $81 is to be divided among n people, where n > 1, so that each gets $x, where x is a whole number > 1, how many different values could there be for n?
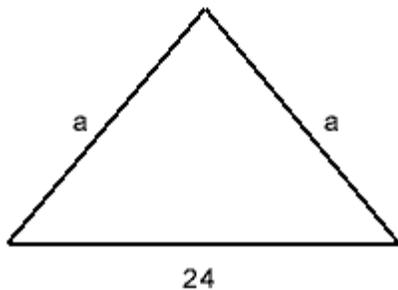
(figure not to scale)

3. If the area of the triangle shown above is 108 square centimeters, what is its perimeter in centimeters?

4. A charity organisation sells greetings cards in packs costing $10 or $2.50 each. A total of 75 packs were sold at a fair for a total of $375. How many of the $2.50 packs were sold?

5. The length of a rectangle is 2/7 of the perimeter. What is the value of the diagonal of the rectangle if the perimeter is 14 units?

6. A = {A, B, C, D, E, F, G}

B = {0, 1, 2}

C = {1, 2, 3, 4, 5, 6, 7, 8, 9}

The filing system in an office requires each file to have an alphanumeric code name of the form abc. A, B and C are the sets from which a,b, and c must be chosen. How many possible code names are there?

7. A measuring cylinder is filled one third full with ethanol. A mixture of ethanol, water and propanol is used to fill the measuring flask to capacity. What fraction of the final mixture is ethanol?

8. The equation y = 6 is graphed on the same coordinate axes as the circle with center (4,4) and radius 3. One of the points of intersection of the line and the circle has x-coordinate 1.76. What is the x coordinate of the other point of intersection?

9. If a and b are positive integers, and (ab3/2)2 = 108, what is the value of ab?
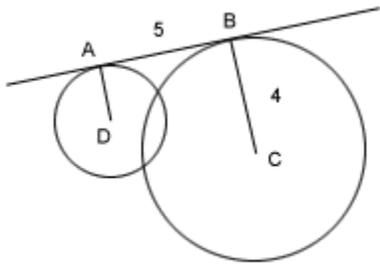
10. The line through AB is tangent to two circles with centers D and C and whose areas are in the ratio 4: 1

If AB = 5 and BC =4, what is the length of line segment DC (not shown)? Grid your answer correct to three significant figures.

Answer Key

1.   6

2.   3

3.   54

4.   50

5.   5

6.   189

7.   5/9

8.   6.24

9.   6

10.   5.39