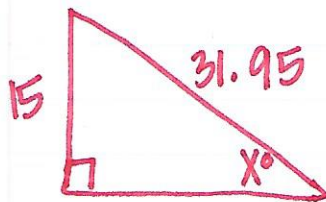


10) Find the value of  $x$ .



11) What is the  $y$ -value of the midpoint:  
 $(-13, 24)$  and  $(16, 14)$

12) Solve the following system of equations:

$$y = x^2 + 5x - 12$$

$$y = 4x + 8$$

Use the positive solution.

13) In the table, what is the  $y$ -intercept of the quadratic function?

$x$	$f(x)$
-3	63
-1	17
2	23
3	45

14) What is the rate of depression of the function

$$d(x) = 12450(0.79)^x ?$$

15) Given the original function  $y = x^2$ , how many units to the right did the function move if it became:

$$f(x) = (x - 29)^2 + 13 ?$$

16) If  $\triangle ABC$  where  $A(-5, 1)$ ,  $B(-3, 2)$  and  $C(1, 5)$  is reflected across the line  $x = 2$ , what is the  $y$ -value of  $B'$ ?

17) If  $\triangle EFG$  where  $E(5, 3)$ ,  $F(-2, 1)$  and  $G(13, -2)$  is dilated with a scale factor of 3, what is the  $x$ -value of  $E'$ ?

18) What is the  $x$ -value of the vertex of  $f(x) = 2x^2 - 20x + 58$ ?

19) Simplify:  $\left(\frac{2x^{1/5}}{3x^{-2/3}}\right)^0$

20) A company found that its monthly profit,  $P$ , is given by  $P = -x^2 + 21x - 80$  where  $x$  is the selling price for each unit of the product. What is the max price per unit that the company can charge without losing money?

21) In which direction must the graph of  $y = \frac{1}{x}$  be shifted to produce the graph of  $y = \frac{1}{x+2}$ . Use the number with the correct direction. Use 10 for up, use 26 for down, use 13 for left, and 14 for right.