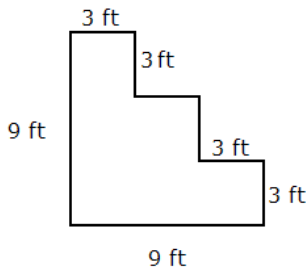


- List all factors of 96. **1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 96**
- Consider the figure shown on the picture below.



- Find the perimeter of the figure. Include units in your answer. **$P = 36$ ft**
 - Find the area of the figure. Include units in your answer. **$81 - 27 = 54$ ft²**
- Is 1209 a prime number? **no, $1209 = 3 \cdot 13 \cdot 31$**
 - Simplify.

$$(a) \frac{(-2) + (-2)^2 + (-2)^3 + (-2)^4}{-2^2 - 1} = -2$$

$$(b) \frac{-3^2 - (-3)^2 + (-24) \div 2 \cdot (-3)}{-(-5)^2 - (-3)^3} = 9$$

- Evaluate the expression $2ab + a^3 - 2b^2 - a^2b$ if

$$(a) a = -1 \text{ and } b = 5. \text{ } -66$$

$$(b) a = -3 \text{ and } b = -1 \text{ } -14$$

$$(c) a = b = 6 \text{ } 0$$

- Solve each of the following equations. Make sure to check your solutions.

$$(a) 3x - 8 = x + 12 \text{ } 10$$

$$(b) 11x - 6 = 18 - x \text{ } 2$$

$$(c) 2x - 1 = 7 - 2x \text{ } 2$$

$$(d) \frac{5a + 1}{4} = -6 \text{ } -5$$

- Consider the equation $y = 5x^2 - 7$

$$(a) \text{ Does the pair of numbers } x = 2, y = 8 \text{ satisfy the equation? } 8 \neq 13 \implies \text{no}$$

$$(b) \text{ Does the pair of numbers } x = 1, y = -2 \text{ satisfy the equation? } -2 = -2 \implies \text{yes}$$

$$(c) \text{ Does the pair of numbers } x = -1, y = -2 \text{ satisfy the equation? } -2 = -2 \implies \text{yes}$$

- The difference between two numbers is 7. They add up to 23. Find these numbers. **8 and 15**

9. One side of a rectangle is 5 in shorter than the other side. Find the length of the sides if the perimeter of the rectangle is 54 in. **11 in by 16 in**
10. A father is 24 years older than his son. The sum of their ages is 42. How old are they? **The father is 33, and the son is 9.**
11. Mary and Pat buy dinner. The bill is \$27, and Mary agreed to pay \$3 more than Pat. How much will each pay? **Mary will pay \$ 15 and Pat will pay \$ 12.**