1st 5

Translate each of the following verbal expressions or equations into a mathematical expression.

1. Fifteen more than three times a number

$3n + 15$

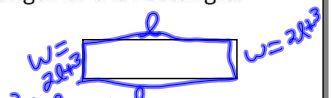
SOLVE

2. The width of a rectangle is 3 more than twice the length. The perimeter of the rectangle is 36 ft. Find the width and length of the rectangle.

$2 \cdot 5 + 3 = 13$

$w = 2l + 3$

$p = 36$



$2l+3 + l + 2l+3 + l = 36$

$6l + 6 = 36$

$-6 \quad -6$

$\frac{6l}{6} = \frac{30}{6}$

$l = 5$ ft

$w = 13$ ft

Equations Day 9

1. The length of the rectangle is twice its width. The perimeter is 72 inches. Find the length and width of the rectangle.

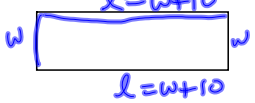
Equations Day 9

2. The length of the rectangle is ten more than its width. The perimeter is 116 ft. Find the length and width of the rectangle.

$l = w + 10$

$24 + 10 = 34$

$p = 116$ ft.



$l = w + 10$

$w + w + 10 + w + w + 10 = 116$

$4w + 20 = 116$

$-20 \quad -20$

$\frac{4w}{4} = \frac{96}{4}$

$w = 24$ ft

$l = 34$ ft

Equations Day 9

3. The length of a rectangle is 6 times its width. The perimeter of the rectangle is 98 centimeters. Find the dimensions of the rectangle.

$l = 6w$

$6 \cdot 7 = 42$

$p = 98$ cm

$w + 6w + w + 6w = 98$

$\frac{14w}{14} = \frac{98}{14}$

$w = 7$ cm

$l = 42$ cm

Equations Day 9

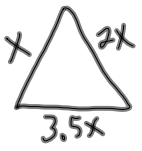
4. The perimeter of a triangle is 65 centimeters. The second side is twice the first and the third side is 3.5 times the first side. Find the length of each side.

$p = 65$ cm

$1st = x$

$2nd = 2x$

$3rd = 3.5x$



$x + 2x + 3.5x = 65$

$\frac{6.5x}{6.5} = \frac{65}{6.5}$

$x = 10$ cm

10 cm
20 cm
35 cm

Equations Day 9

5. The length of a rectangle is 11 more than twice its width. The perimeter of the rectangle is 118 feet. Find the dimensions of the rectangle.

$l = 2w + 11$

$2 \cdot 16 + 11 = 43$

$p = 118$ ft

$w + 2w + 11 + w + 2w + 11 = 118$

$6w + 22 = 118$

$-22 \quad -22$

$\frac{6w}{6} = \frac{96}{6}$

$w = 16$ ft

$l = 43$ ft

Equations Day 9

6. The perimeter of a rectangle is 24 inches. The length is 3 less than 4 times its width. What are the dimensions of the rectangle?

$P = 24$ in

$l = 4w - 3$

$4 \cdot 3 - 3$

$12 - 3$

9

$w + 4w - 3 + w + 4w - 3 = 24$

$10w - 6 = 24$

$+6 \quad +6$

$\frac{10w}{10} = \frac{30}{10}$

$w = 3$ in

$l = 9$ in

Equations Day 9

7. One side of a triangle is 8 more than the first side. The third side is 5 less than twice the first side. Find the length of each side of the triangle if the perimeter is 47 feet.

1st = x

2nd = $x + 8$

3rd = $2x - 5$

$x + x + 8 + 2x - 5 = 47$

$4x + 3 = 47$

$-3 \quad -3$

$4x = 44$

$x = 11$

11 ft

19 ft

17 ft

Equations Day 9

8. The lengths of the sides of a triangle can be represented by three consecutive odd integers. The perimeter of the triangle is 51 meters. Find the lengths of the sides of the triangle.

1st = x

2nd = $x + 2$

3rd = $x + 4$

$x + x + 2 + x + 4 = 51$

$3x + 6 = 51$

$-6 \quad -6$

$\frac{3x}{3} = \frac{45}{3}$

1st = 15m

17m

19m

Equations Day 9

9. The perimeter of a triangle is 38 ft. One side of the triangle is six more than the smallest side and the third side is twice the smallest side. Find the length of all three sides.

$P = 38$ ft

Smallest = x

2nd = $x + 6$

3rd = $2x$

$x + x + 6 + 2x = 38$

$4x + 6 = 38$

$-6 \quad -6$

$\frac{4x}{4} = \frac{32}{4}$

$x = 8$

8 ft

14 ft.

16 ft

Equations Day 9

10. The perimeter of a rectangle is 24 ft. The length is 3 less than 4 times its width. What are the dimensions of the rectangle?

$P = 24$ ft

$l = 4w - 3$

$w + 4w - 3 + w + 4w - 3 = 24$

$10w - 6 = 24$

$+6 \quad +6$

$\frac{10w}{10} = \frac{30}{10}$

$w = 3$ ft

$l = 9$ ft

Equations Day 9

11. Find two consecutive integers whose sum is 45. 22, 23

12. Find two consecutive integers whose sum is 35. 17, 18

13. Find three consecutive integers whose sum is 33. 10, 11, 12

consecutive integers

x, $x + 1$, $x + 2$, ...

(13)

(11) $x + x + 1 = 45$

$2x + 1 = 45$

$-1 \quad -1$

$\frac{2x}{2} = \frac{44}{2}$

$x = 22$

(12) $x + x + 1 = 35$

$2x + 1 = 35$

$-1 \quad -1$

$\frac{2x}{2} = \frac{34}{2}$

$x = 17$

$x + x + 1 + x + 2 = 33$

$3x + 3 = 33$

$-3 \quad -3$

$\frac{3x}{3} = \frac{30}{3}$

$x = 10$

Equations Day 9

14. Find three consecutive integers whose sum is 126. 41, 42, 43

15. Find two consecutive even integers whose sum is 26. 12, 14

16. Find two consecutive even integers whose sum is 186. 92, 94

(14) $x+x+1+x+2=126$

$3x+3=126$

$-3 \quad -3$

$\frac{3x}{3}=\frac{123}{3}$

$x=41$

Even/ODD

$x, x+2, x+4, \ldots$

(15) $x+x+2=26$

$2x+2=26$

$-2 \quad -2$

$2x=24 \quad x=12$

(16) $x+x+2=186$

$2x+2=186$

$-2 \quad -2$

$2x=184$

$x=92$

Equations Day 9

17. Find two consecutive odd integers whose sum is 128. 63, 65

18. Find two consecutive odd integers whose sum is 92. 45, 47

19. Find three consecutive even integers whose sum is 54. 16, 18, 20

$x, x+2, x+4 \ldots$

Equations Day 9

22. Find three consecutive odd integers whose sum is 369. 121, 123, 125

Equations Day 9

9 Feb 12

PW 24

- **Review Equations**

Bring it to me today to see!

Equations Day 9