

July 24, 2022



$$\begin{array}{r} 0.5s + 1 = 7 + 4.5s \\ -0.5s \quad -0.5s \end{array}$$

$$\begin{array}{r} 1 = 7 + 4s \\ -7 \quad -7 \end{array}$$

$$\begin{array}{r} -6 = 4s \\ \hline 4 \quad 4 \end{array}$$

$$-\frac{3}{2} = s$$

$$\boxed{-1.5 = s}$$

$$2.5(4k + 2) = 12k$$

$$\begin{array}{r} 10k + 5 = 12k \\ -10k \quad -10k \end{array}$$

$$\begin{array}{r} 5 = 2k \\ \hline 2 \quad 2 \end{array}$$

$$\frac{5}{2} = k$$

$$\boxed{2.5 = k}$$

$$\begin{array}{r} 12 - \frac{1}{5}r = 2r + 1 \\ + \frac{1}{5}r \end{array}$$

$$12 = 2r + \frac{1}{5}r + 1$$

$$\begin{array}{r} 12 = \frac{11}{5}r + 1 \\ -1 \end{array}$$

$$\begin{array}{r} 11 = \frac{11}{5}r \\ \cdot 5 \quad \cdot 5 \end{array}$$

$$\begin{array}{r} 55 = 11r \\ \hline 11 \quad 11 \end{array}$$

$$\boxed{5 = r}$$

$$4(1 + 0.5m) = 7m$$

$$4 + 2m = 7m$$

$$\begin{array}{r} 4 = 5m \\ \hline 5 \quad 5 \end{array}$$

$$\frac{4}{5} = m$$

$$\boxed{0.8 = m}$$

$$\begin{array}{r} x - 37 = x - 37 \\ -x \quad -x \end{array}$$

$$\begin{array}{r} -37 = -37 \\ \infty \end{array}$$

$$\begin{array}{r} 2d + 4 = 10 + 2.5d \\ -2d \quad -2d \end{array}$$

$$\begin{array}{r} 4 = 10 + 0.5d \\ -10 \quad -10 \end{array}$$

$$\begin{array}{r} -6 = 0.5d \\ \hline 0.5 \quad 0.5 \end{array}$$

$$\boxed{-12 = d}$$

$$\begin{array}{r} 74x - 37 = 74x - 37 \\ -74x \quad -74x \end{array}$$

$$\begin{array}{r} -37 = -37 \\ \infty \end{array}$$

$$20z - 5 - 12z = 10z + 8$$

$$\begin{array}{r} 8z - 5 = 10z + 8 \\ -8z \quad -8z \end{array}$$

$$\begin{array}{r} -5 = 2z + 8 \\ -8 \quad -8 \end{array}$$

$$\begin{array}{r} -13 = 2z \\ \hline 2 \quad 2 \end{array} \Rightarrow \boxed{-\frac{13}{2} = z}$$

Sum of 4 consecutive odd integers is 136. what are the 4 integers.

$$\begin{array}{cccc} & & x & x+2 & +4 & +6 \\ 3, 5, 7, 9 & & 11, 13, 15, 17 \end{array}$$

Let x = smallest of 4 integers

$$(x) + (x+2) + (x+4) + (x+6) = 136$$

$$4x + 12 = 136$$

$$\begin{array}{r} -12 \quad -12 \\ \hline \end{array}$$

$$\frac{4x}{4} = \frac{124}{4}$$

$$\boxed{x = 31}$$

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

$$\begin{array}{r} 3x + 6 = 51 \\ -6 \quad -6 \end{array}$$

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

$$x = 15$$

$$15, 17, 19$$

$$\boxed{17}$$

$$x + (x+1) + (x+2) + (x+3) = 130$$

$$\begin{array}{r} 4x + 6 = 130 \\ -6 \quad -6 \end{array}$$

$$\frac{4x}{4} = \frac{124}{4}$$

$$x = 31$$

$$31, 32, 33, 34$$

$$\begin{array}{c} \uparrow \\ \boxed{\text{Third \#} = 33} \end{array}$$

$$x + (x+1) + (x+2) + (x+3) + (x+4) + (x+5) = 519$$

$$6x + 15 = 519$$

$$\begin{array}{r} -15 \\ -15 \end{array}$$

$$6x = 504$$

$$x = 84$$

84, 85, 86, 87, 88, 89

4

86

$$x + (x+2) + (x+4) + (x+6) + (x+8) = 310$$

$$5x + 20 = 310$$

$$\begin{array}{r} -20 \\ -20 \end{array}$$

$$\frac{5x = 290}{5 \quad 5}$$

$$x = 58$$

58 + 60 + 62 + 64 + 66

4

62

$$x + (x+1) + (x+2) + (x+3) = 130$$

$$4x + 6 = 130$$

$$\begin{array}{r} -6 \\ -6 \end{array}$$

$$4x = 124$$

$$x = 31$$

31, 32, 33, 34

4

33

$$-9(z+8) = -9z - 72$$

$$\cancel{-9z} - 72 = \cancel{-9z} - 72$$

$$\cancel{+9z}$$

$$\cancel{+9z}$$

$$-72 = -72$$

[∞]
infinite solutions

$$x + (x+2) + (x+4) = 5$$

$$3x + 6 = 5$$

$$3x = 45$$

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

$$x = 15$$

$$15, 17, 19$$

$$\boxed{\begin{array}{c} 1 \\ 17 \end{array}}$$

$$-7x - 10 - 15x = -22x + 83$$

$$\cancel{-22x} - 10 = \cancel{-22x} + 83$$

$$\cancel{+22x}$$

$$\cancel{+22x}$$

$$-10 = 83$$

$$12g = 12\left(\frac{2}{3}g - 1\right) + 11$$

$$12g = 8g - 12 + 11$$

$$12g = 8g - 1$$

$$\cancel{-8g} \quad \cancel{-8g}$$

$$\frac{4g}{4} = -1$$

$$\boxed{g = -\frac{1}{4}}$$

$$\frac{2}{3}b + 5 = 20 - 6$$

$$\cancel{+6}$$

$$\frac{3}{3} + \frac{2}{3} = \frac{5}{3}$$

$$\frac{5b}{5} = \frac{45}{5}$$

$$\boxed{b = 9}$$

$$\frac{5}{3}b + 5 = 20$$

$$\frac{5}{3}b = 15$$

$$6s - 4 = 8\left(2 + \frac{1}{4}s\right)$$

$$6s - 4 = 16 + \cancel{2s} - 2s$$

$$4s - \cancel{4} = 16 + \cancel{4}$$

$$\frac{4s}{4} = \frac{20}{4}$$

$$\boxed{s = 5}$$

$$-2z + 10 + 7z = 16z + 7$$

$$\cancel{5z} + 10 = 16z + 7$$

$$-5z \quad -5z$$

$$10 = 11z + 7$$

$$-7 \quad -7$$

$$3 = \frac{11z}{11}$$

$$\boxed{\frac{3}{11} = z}$$