

Solve.

$$3. \quad \frac{2}{3}a - 14 = 61$$

$$\frac{2}{3}a - 14 + 14 = 61 + 14$$

$$\frac{2}{3}a = 75$$

$$\frac{3}{2} \cdot \frac{2}{3}a = 75 \cdot \frac{3}{2}$$

$$a = \frac{225}{2}$$

$$4. \quad -5 = 8 - 3d$$

$$-5 - 8 = 8 - 3d - 8$$

$$-13 = -3d$$

$$\frac{-13}{-3} = \frac{-3d}{-3}$$

$$\frac{13}{3} = d$$

Solve.

$$5. \quad -2(h + 1) = 11$$

$$-2h - 2 = 11$$

$$-2h - 2 + 2 = 11 + 2$$

$$-2h = 13$$

$$\frac{-2h}{-2} = \frac{13}{-2}$$

$$h = -6.5$$

or

$$-\frac{13}{2}$$

$$6. \quad -20 = 4(p - 7)$$

$$-20 = 4p - 28$$

$$-20 + 28 = 4p - 28 + 28$$

$$8 = 4p$$

$$\frac{8}{4} = \frac{4p}{4}$$

$$2 = p$$

Solve.

$$\begin{array}{r}
 7.4. \quad \frac{(2 - 3f)}{4} = 12 \cdot 4 \\
 \hline
 +2 - 3f = 48 \\
 -2 \quad -2 \\
 \hline
 -3f = 46 \\
 -3 \quad -3 \\
 \hline
 f = -\frac{46}{3}
 \end{array}$$

$$\begin{array}{r}
 8. \quad 2 \cdot -25 = \frac{(3w + 1)}{2} \cdot 2 \\
 \hline
 -50 = 3w + 1 \\
 -1 \quad -1 \\
 \hline
 -51 = 3w \\
 3 \quad 3 \\
 \hline
 -17 = w
 \end{array}$$

Solve.

$$\begin{array}{r}
 9. \quad \underbrace{8y + 3y} = 44 \\
 \hline
 11y = 44 \\
 11 \quad 11 \\
 \hline
 y = 4
 \end{array}$$

$$\begin{array}{r}
 10. \quad -34 = -5k + 2k - 2 \\
 \hline
 -34 = -3k - 2 \\
 +2 \quad +2 \\
 \hline
 -32 = -3k \\
 -3 \quad -3 \\
 \hline
 \frac{32}{3} = k
 \end{array}$$

Consecutive numbers are numbers in counting order (one right after another), such as 3, 4, 5.

What would consecutive odd integers look like?

1, 3, 5, 7, ...

What would consecutive even integers look like?

2, 4, 6, 8, ...

11. Define a variable, write an equation, & solve.

Find three consecutive integers whose ^{add} sum is -30.

$$\begin{array}{r}
 \underline{x} + \underline{(x+1)} + \underline{(x+2)} = -30 \\
 3x + 3 = -30 \\
 \underline{-3} \quad \underline{-3} \\
 \hline
 3x = -33 \\
 \underline{3} \quad \underline{3} \\
 \hline
 x = -11
 \end{array}$$

Let $x = 1^{\text{st}}$ cons. int. = -11

$x+1 = 2^{\text{nd}}$ cons. int. = $-11+1 = -10$

$x+2 = 3^{\text{rd}}$ cons. int. = $-11+2 = -9$

-11, -10, -9

12. Define a variable, write an equation, & solve.

Find two consecutive odd integers
whose ^{add} sum is 128.

Let $x = 1^{\text{st}}$ cons. odd int. = 63

$x+2 = 2^{\text{nd}}$ cons. odd int. = 65

63 & 65

$$\begin{array}{r} x + (x+2) = 128 \\ 2x + 2 = 128 \\ \underline{-2} \quad \underline{-2} \\ 2x = 126 \\ \underline{2} \quad \underline{2} \\ x = 63 \end{array}$$

13. Define a variable, write an equation, & solve.

Find four consecutive even integers
whose sum is -44.

Let $x = 1^{\text{st}}$ cons. even int.

$x+2 = 2^{\text{nd}}$

$x+4 = 3^{\text{rd}}$

$x+6 = 4^{\text{th}}$

-14, -12, -10, -8

$$\begin{array}{r} x + (x+2) + (x+4) + (x+6) = -44 \\ 4x + 12 = -44 \\ \underline{-12} \quad \underline{-12} \\ 4x = -56 \\ \underline{4} \quad \underline{4} \\ x = -14 \end{array}$$

14. Define a variable, write an equation, & solve.

Karen has 6 more than twice as many newspaper customers as when she started selling newspapers. She now has 98 customers. How many did she have when she started?

Let $x = \#$ of starting customers

$$\begin{array}{r|l} 2x + 6 & = 98 \\ -6 & -6 \\ \hline 2x & = 92 \\ \frac{2x}{2} & \frac{92}{2} \\ x & = 46 \text{ customers} \end{array}$$

15. Define a variable, write an equation, & solve.

A skate park charges \$7 per session to skate and \$4 per session to rent safety equipment. Jared rents safety equipment every time he skates. During the summer, he spends \$99 for skating charges and equipment rentals. How many times did he pay to

skate at the park?
Let $x = \#$ of visits

$$\begin{array}{l} 11x = 99 \\ \frac{11x}{11} = \frac{99}{11} \\ x = 9 \text{ visits} \end{array}$$