

Name:

Unit 1 Day 9 - MARTIAN DARTS



Part One: Solve the following one-step equations:

$$\begin{array}{r} 1. \quad x - 9 = -31 \\ \quad +9 \quad +9 \\ \hline \quad \quad \quad x = -22 \end{array}$$

$$2. \quad 27 = m + 43$$

$$m = -16$$

$$\begin{array}{r} 3. \quad \frac{x}{4} = 8 - 4 \\ \quad \quad \quad x = -32 \end{array}$$

$$4. \quad \frac{5j}{5} = \frac{55}{5}$$

$$j = 11$$



Part Two: Solve the following two step equations:

$$\begin{array}{r} 5. \quad 9k - 7 = -7 \\ \quad +7 \quad +7 \\ \hline \quad \quad \quad 9k = 0 \\ \quad \quad \quad k = 0 \end{array}$$

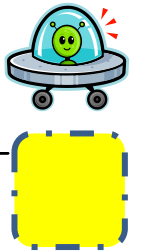
$$6. \quad 6 = \frac{a}{3} + 2$$

$$\begin{array}{r} 3 \cdot 4 = \frac{a}{3} \cdot 3 \\ \hline a = 12 \end{array}$$

$$\begin{array}{r} 7. \quad -15 = -4y + 5 \\ \quad -5 \quad -5 \\ \hline \quad \quad \quad -20 = -4y \\ \quad \quad \quad \frac{-20}{-4} = \frac{-4y}{-4} \\ \quad \quad \quad 5 = y \rightarrow y = 5 \end{array}$$

$$8. \quad 8 + \frac{c}{-4} = 5$$

$$\begin{array}{r} -8 \quad -8 \\ \hline -4 \cdot \frac{c}{-4} = -3 \cdot -4 \\ \hline c = 12 \end{array}$$



Part Three: Solve the following multi-step equations:

$$\begin{array}{r} 9. \quad -10 = 10(x - 9) \\ -10 = 10x - 90 \\ 80 = 10x \\ x = 8 \end{array}$$

$$10. \quad 2(n + 5) = -2$$

$$\begin{array}{r} 2n + 10 = -2 \\ \quad -10 \quad -10 \\ \hline 2n = -12 \\ \quad \quad \quad \frac{2n}{2} = \frac{-12}{2} \\ \quad \quad \quad n = -6 \end{array}$$

$$\begin{array}{r} -3. \\ 11. \quad \frac{x}{-3} = 7 \cdot -3 \\ \hline x = -21 \end{array}$$

$$12. \quad \frac{y}{4} - 1 = 8$$

$$\begin{array}{r} +1 \quad +1 \\ \hline 4 \cdot \frac{y}{4} = 9 \cdot 4 \\ \hline y = 36 \end{array}$$



Part Four: Solve the following equations with variables on the same side of the equation:

13. $8m + 5 - 6m = 1$

$$\begin{array}{r} 2m + 5 = 1 \\ -5 \quad -5 \\ \hline 2m = -4 \\ \frac{2m}{2} = \frac{-4}{2} \end{array}$$

$m = -2$

15. $10p + 3 - 4p = 21$

$$\begin{array}{r} 6p + 3 = 21 \\ -3 \quad -3 \\ \hline 6p = 18 \\ \frac{6p}{6} = \frac{18}{6} \\ p = 3 \end{array}$$

14. $29 = 4k + 8 - k$

$$\begin{array}{r} 29 = 3k + 8 \\ -8 \quad -8 \\ \hline 21 = 3k \\ \frac{21}{3} = \frac{3k}{3} \end{array}$$

$k = 7$

16. $19 = -17b - 5 + 13b$

$$\begin{array}{r} 19 = -4b - 5 \\ +5 \quad +5 \\ \hline 24 = -4b \\ \frac{24}{-4} = \frac{-4b}{-4} \\ b = -6 \end{array}$$



Part Five: Solve the following equations with variables on opposite sides of the equation:

17. $7 - x = 4 + 2x$

$$\begin{array}{r} 7 - x = 4 + 2x \\ -4 \quad -4 \\ \hline 3 - x = 2x \\ +x \quad +x \\ \hline 3 = 3x \\ \frac{3}{3} = \frac{3x}{3} \end{array}$$

$x = 1$

19. $3 + 12f = 3(3 + 2f)$

$$\begin{array}{l} 3 + 12f = 9 + 6f \\ 3 + 6f = 9 \\ \frac{6f}{6} = \frac{6}{6} \\ f = 1 \end{array}$$

21. $5(y + 2) = 3(1 + 2y)$

$$\begin{array}{r} 5y + 10 = 3 + 6y \\ -6y \quad -6y \\ \hline -y + 10 = 3 \\ -10 \quad -10 \\ \hline -y = -7 \\ \frac{-y}{-1} = \frac{-7}{-1} \\ y = 7 \end{array}$$

18. $5t - 7 = 2t + 2$

$$\begin{array}{r} 5t - 7 = 2t + 2 \\ +7 \quad +7 \\ \hline 5t = 2t + 9 \\ -2t \quad -2t \\ \hline 3t = 9 \\ \frac{3t}{3} = \frac{9}{3} \end{array}$$

$t = 3$

20. $-4(n + 2) = 8 - 2n$

$$\begin{array}{r} -4n - 8 = 8 - 2n \\ +8 \quad +8 \\ \hline -4n = 16 - 2n \\ +2n \quad +2n \\ \hline -2n = 16 \\ \frac{-2n}{-2} = \frac{16}{-2} \rightarrow n = -8 \end{array}$$

22. $\frac{1}{2}(2x + 4) = 2x - 3$

$$\begin{array}{r} 1x + 2 = 2x - 3 \\ -2 \quad -2 \\ \hline x = 2x - 5 \\ -2x \quad -2x \\ \hline -x = -5 \\ \frac{-x}{-1} = \frac{-5}{-1} \\ x = 5 \end{array}$$

