

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

Writing equations from word problems

Signs

units

TEC

### 8th Grade Quiz Lessons 1.8, 1.9, 2.7, 2.8

Short Answer: For each of the algebraic equations, solve the equation. Make sure to show all of your work and check your answers. Write your answer in the simplest form ( $x = \dots$ ).

Add line, Change the sign

1. Solve  $x + 27 = 23$

$x = -4$

ME

2. Solve  $-9 + x = 41$

$x = 50$

+ -9    ~~x = 48~~

3. Solve  $x + \frac{11}{12} = \frac{215}{12}$

$x = 17$

NLT  
204  
12  
I.F (+s.F)  
204  
-18    8 4/5

5. Solve  $-38 = 6 - 2x$

$22 = x$  or  $x = 22$

add a line (-16)  
+6    1+2    9.5    sign opps  
11111111    11111111    1    11    1    1

6. Solve  $108 = 27 - 9x$

$-9 = x$  or  $x = -9$

add a line (+15)  
+27    1+9    sign opps  
11111111    11111111    11    1    1

7. Solve  $14s = 238$

$s = 17$

4. Solve  $-9.4 = y - 18.2$

$8.8 = y$  or  $y = 8.8$

8. Solve  $9.4p = 47$

$p = 5$

88 (need decimal)    Blank    27.6 (oops)

7    Blank

Sign    11.8    9.2 (oops)    +9.4

9. Solve  $\frac{p}{6} = 30$

$p = 180$

13. Solve  $\frac{v}{9} + 8 = 7$

$v = -9$

10. Solve  $\frac{t}{17.8} = -17.6$

$t = -313.28$

193.8 594  
1    ~~111~~ ~~1111~~ ~~11~~

14. Solve  $\frac{y-5}{3} = 12$

$y = 41$

3  
1111

11. Solve  $4x - 3 = 17$

$x = 5$

15. Write your equation and solve: In order to rent a rock climbing center, David has to pay an initial fee of \$33 plus \$22 per hour for his friends to rock climb. If David only has \$121, how many hours can David and his friends rock climb?  $t = \text{time (hours)}$

Eqn.  $C = 22t + 33$

Solution  $t = 4$  hours or  $4$  hours =  $t$

12. Solve  $\frac{7}{10}w = -\frac{1}{14}$

$w = -\frac{5}{49}$  or  $w = -0.102$

$\frac{-5}{100}$     MLT (-10/98) sign  
1    1111    1111

Eqn.    Solution    caps  
~~111~~ ~~111~~    1

Extra Credit: Showing all work, solve the following

+1 EC

$-4^2(-8x - 18) - \left(\frac{1}{3-2}\right)(7x + 12) = -78$

$x = -\frac{258}{65}$  or  $x = -3.969$

$\frac{-7}{14}$   
-01  
111  
6.4  
140  
1

$\frac{1}{9} \neq \frac{1}{3-2}$   
11

$$\textcircled{1} \quad \begin{array}{r} x + 27 = 23 \\ -27 \quad -27 \end{array}$$

$$x = -4 \quad \checkmark$$

$$\textcircled{2} \quad \begin{array}{r} -9 + x = 41 \\ +9 \quad +9 \end{array}$$

$$x = 50 \quad \checkmark \quad +1$$

$$\textcircled{3} \quad \begin{array}{r} x + \frac{11}{12} = \frac{215}{12} \\ -\frac{11}{12} \quad -\frac{11}{12} \end{array}$$

$$x = \frac{204}{12}$$

$$x = 17 \quad \checkmark \quad +1$$

$$\textcircled{4} \quad \begin{array}{r} -9.4 = y - 18.2 \\ +18.2 \quad +18.2 \end{array}$$

$$8.8 = y \quad \checkmark \quad +1$$

$$\textcircled{5} \quad \begin{array}{r} -38 = 6 - 2x \\ -6 \quad -6 \end{array}$$

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

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

$$22 = x \quad \checkmark \quad +1$$

$$\textcircled{6} \quad \begin{array}{r} 108 = 27 - 9x \\ -27 \quad -27 \end{array}$$

$$81 = \frac{-9x}{-9}$$

$$-9 = x \quad \checkmark \quad +1$$

$$\textcircled{7} \quad \begin{array}{r} 145 = 238 \\ 14 \quad 14 \end{array}$$

$$s = 17 \quad \checkmark \quad +1$$

$$\textcircled{8} \quad \begin{array}{r} 9.4p = 47 \\ 9.4 \quad 9.4 \end{array}$$

$$p = 5 \quad \checkmark \quad +1$$

$$\textcircled{9} \quad \begin{array}{r} p = 30.6 \\ 6 \end{array}$$

$$p = 180 \quad \checkmark \quad +1$$

$$\textcircled{10} \quad \begin{array}{r} + \\ 17.8 \end{array} = -17.6 \cdot 17.8$$

$$+ = -313.28 \quad \checkmark$$

Quiz lesson

1.8, 1.9, 2.7, 2.8

Final Answer

Key

$$\frac{\quad}{16} + 1 \text{ PC}$$

$$\textcircled{11} \quad 4x - 3 = 17$$

$$\quad \quad +3 \quad +3$$

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

$$x = 5 \quad \checkmark \quad +1$$

$$\textcircled{15} \quad C = 22t + 33 + 1$$

$$121 = 22t + 33$$

$$\quad \quad \quad -33$$

$$\frac{88}{22} = \frac{22t}{22} \quad t = \text{hours}$$

$$4 = t \quad \checkmark \quad +1 \quad \textcircled{+2}$$

David and his friends  
could rock climb for  
4 hours

$$\textcircled{12} \quad \frac{10}{7} \cdot \frac{7}{10} w = -\frac{1}{14} \cdot \frac{10}{7}$$

$$w = \frac{-10}{98}$$

$$w = \frac{-5}{49}$$

$$w = -0.102 \quad \checkmark \quad +1$$

$$\text{E.C} \quad -4^2(-8x-18) - \left(\frac{1}{3} \cdot 2\right)(7+12) + 7$$

$$-16(-8x-18) - 3^2(7+12) + 7$$

$$(128x + 288) + (63x - 108) + 7$$

$$65x + 203 = 0$$

$$\quad \quad \quad -203 \quad -203$$

$$\frac{65x}{65} = \frac{-203}{65}$$

$$x = \frac{-203}{65}$$

$$x = -3.123 \quad \checkmark$$

$$\textcircled{13} \quad \frac{v}{9} + 8 = 7$$

$$\quad \quad -8 \quad -8$$

$$\frac{v}{9} = -1$$

$$v = -9 \quad \checkmark \quad +1$$

$$\textcircled{14} \quad \frac{y-5}{3} = 12 \cdot 3 \quad x = -3 \frac{83}{65}$$

$$y-5 = 36$$

$$\quad \quad +5 \quad +5$$

$$y = 41 \quad \checkmark \quad +1$$