

## ALGEBRA 1

Name

KEY

## 1-2 PRACTICE:

## ORDER of OPERATIONS and EVALUATING EXPRESSIONS

Simplify each expression using the order of operations. Use proper formatting!!!

1a.  $(-5)^2$

$= (-5)(-5)$

$= 25$

1b.  $-5^2$

$= -5 \cdot 5$

$= -25$

1c.  $\left(-\frac{3}{4}\right)^2$

$= \left(-\frac{3}{4}\right)\left(-\frac{3}{4}\right)$

$= \frac{9}{16}$

1d.  $-\left(\frac{3}{4}\right)^2$

$= -\left(\frac{3}{4} \cdot \frac{3}{4}\right)$

$= -\frac{9}{16}$

2.  $29 - 3(9) + 4$

$= 29 - 27 + 4$

$= 2 + 4$

$= 6$

3.  $5(2)^2 \div 2 + 8$

$= 5(4) \div 2 + 8$

$= 20 \div 2 + 8$

$= 10 + 8$

$= 18$

4.  $7.9 - 3.2(10 \div 5)$

$= 7.9 - 3.2(2)$

$= 7.9 - 6.4$

$= 1.5$

5.  $12 \div 3 - 6(2) - 8 \div 4$

$= 4 - 12 - 2$

$= -8 - 2$

$= -10$

6.  $\frac{3[10 - (27 \div 9)]}{4 - 7}$

$= \frac{3[10 - 3]}{-3}$

$= \frac{3[7]}{-3}$

$= \frac{21}{-3}$

$= -7$

7.  $5(14 - 18 \div 3) + 4\left(\frac{1}{4}\right)$

$= 5(14 - 6) + 1$

$= 5(8) + 1$

$= 40 + 1$

$= 41$

Evaluate each expression for  $x = 5$ ,  $y = -4$ , and  $z = 6$ . Use proper formatting!!!

$$\begin{aligned} 8. \quad 2xz - y &= 2(5)(6) - (-4) \\ &= 60 + 4 \\ &= 64 \end{aligned}$$

$$\begin{aligned} 9. \quad 2x(y + z) &= 2(5)(-4 + 6) \\ &= 2(5)(2) \\ &= 10(2) \\ &= 20 \end{aligned}$$

$$\begin{aligned} 10. \quad 5x - (y + 2z) &= 5(5) - (-4 + 2(6)) \\ &= 25 - (-4 + 12) \\ &= 25 - (8) \\ &= 17 \end{aligned}$$

$$\begin{aligned} 11. \quad 2xy + z^2 &= 2(5)(-4) + (6)^2 \\ &= -40 + 36 \\ &= -4 \end{aligned}$$

$$\begin{aligned} 12. \quad \frac{2y^2 - x}{z} &= \frac{2(-4)^2 - 5}{6} \\ &= \frac{2(+16) - 5}{6} \\ &= \frac{+32 - 5}{6} \\ &= \frac{27}{6} \\ &= \frac{9}{2} \end{aligned}$$

$$\begin{aligned} 13. \quad 2x^2 - y^2 + 3 &= 2(5)^2 - (-4)^2 + 3 \\ &= 2(25) - 16 + 3 \\ &= 50 - 16 + 3 \\ &= 34 + 3 \\ &= 37 \end{aligned}$$

$$\begin{aligned} 14. \quad (2xz) \div (-3y) &= (2 \cdot 5 \cdot 6) \div (-3 \cdot -4) \\ &= 60 \div 12 \\ &= 5 \end{aligned}$$

$$\begin{aligned} 15. \quad \frac{z^2 \div y}{z + y} &= \frac{(6)^2 \div (-4)}{6 + (-4)} \\ &= \frac{36 \div (-4)}{2} \\ &= -\frac{9}{2} \end{aligned}$$