

## Equivalent Expressions Worksheets

1. Simplify each expression. Verify that your expression is equivalent to the one given by evaluating each expression for the given value of the variable.

a)  $(d + 3d) - (-d + 2)$ ;  
 $d = 3$

b)  $(8h - 1) - (h + 3)$ ;  
 $h = -3$

c)  $(2g + 9h - 5) - (6g - 4h + 2)$ ;  $g = -2$  and  $h = 5$

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$$\begin{aligned} & \text{a) } (d + 3d) - (-d + 2); \\ & d = 3 \end{aligned}$$

$$5d - 2$$

$$5(3) - 2$$

$$15 - 2$$

$$13$$

$$(3 + 3(3)) - (-3 + 2)$$

$$(3 + 9) - (-1)$$

$$12 + 1$$

$$13$$

$$\begin{aligned} & \text{b) } (8h - 1) - (h + 3); \\ & h = -3 \end{aligned}$$

$$7h - 4$$

$$7(-3) - 4$$

$$-21 - 4$$

$$-25$$

$$(8(-3) - 1) - (-3 + 3)$$

$$(-24 - 1) - (0)$$

$$(-25) - 0$$

$$-25$$

$$\text{c) } (2g + 9h - 5) - (6g - 4h + 2); g = -2 \text{ and } h = 5$$

$$-4g + 13h - 7$$

$$-4(-2) + 13(5) - 7$$

$$8 + 65 + (-7)$$

$$73 + (-7)$$

$$66$$

$$(2(-2) + 9(5) - 5) - (6(-2) - 4(5) + 2)$$

$$(-4 + 45 - 5) - (-12 + (-4(5)) + 2)$$

$$(41 - 5) - (-12 + (-20) + 2)$$

$$(41 + (-5)) - (-32 + 2)$$

$$36 - (-30)$$

$$36 + 30$$

$$66$$

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