Name: KEY Pd: _____

Skill Building WS 2

For the following expressions, solve for the unknown quantity given the provided information:

1. Given $p = \frac{1}{3}(n-q)^2$ and $n = 5$ & $q = 2$, find the value for p.

$p = \frac{1}{3}(n-q)^2 = \frac{1}{3}(5-2)^2 = \frac{1}{3}(3)^2 = \frac{1}{3}(9) = \frac{9}{3} = 3$

$\boxed{p = 3}$

2. Given $h^2 = 2jw + d^2$ and $j = 5$& $w = 3$ *and* $d = -2$, find the value for h^2.

$h^2 = 2jw + d^2 = 2(5)(3) + (-2)^2 = 2(5)(3) + 4 = 30 + 4 = 34$

$\boxed{h^2 = 34}$

3. From the equation above, what is the value of h? What operation is necessary to determine the value of h?

$h^2 = 34 \longrightarrow$ Square root both sides to reduce the exponent of 2 $\longrightarrow \sqrt{h^2} = \sqrt{34}$

$\boxed{h = \sqrt{34} \approx 5.83}$

4. Given $y = \sqrt{3v} + (4s)^2$ and $v = 12$ & $s = 2.5$, find the value for y.

$y = \sqrt{3(12)} + (4(2.5))^2$

$= \sqrt{36} + (10)^2$

$= 6 + 100$

$\boxed{y = 106}$

5. Given $x - 4 = t + 12$ and $x = 20$, find the value for t without changing or rearranging the equation.

$x - 4 = t + 12$

$20 - 4 = t + 12$

$16 = t + 12$

$\boxed{t = 4}$

6. From the equation above, find the value for t using the Addition Property of Equality.

$16 = t + 12$ Add P. of E/Inv.

$-12 \quad -12$

$\boxed{4 = t}$

7. Given $3b = 7 - w$ and $w = -2$, find the value for b without changing or rearranging the equation.

$3b = 7 - (-2)$

$3b = 9$

$\boxed{b = 3}$

8. From the equation above, find the value for b using the Multiplicative Property of Equality.

$\frac{3b}{3} = \frac{9}{3}$ Mult. P. of E/Inv.

$\boxed{b = 3}$

9. Given $2k - 8 = 6y$ and $y = 2$, find the value for k using both the Addition Property of Equality and the Multiplicative Property of Equality.

$2K - 8 = 6y$

$2K - 8 = 6(2) = 12$

$2K - 8 = 12$

$+8 \quad +8$

$\frac{2K}{2} = \frac{20}{2}$

$\boxed{K = 10}$