

❖ Translate each word phrase into a mathematical expression

1. 5 less than p $p - 5$
2. the sum of 3 and r doubled $3 + 2r$
3. the difference of m and n divided by 5 $\frac{m-n}{5}$
4. the number of days in w weeks $7w$
5. the product of 6 and d plus 7 $6d + 7$

❖ Simplify each expression

1. $3ab + a$ for $a = -2$ and $b = 5$

$$3(-2)(5) + (-2)$$

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

$$-30 + (-2)$$

$$\underline{-32}$$

2. $3(6 - 7) + 3^2 + 8 \cdot 2$

$$3(-1) + 9 + 8 \cdot 2$$

$$-3 + 9 + (-16)$$

$$6 + (-16)$$

$$\underline{-10}$$

3. $(5x) + 7 + (6x) - 4 + 2x$

$$x + 3 \quad 5x + (-6x) + 2x = x$$

$$7 + (-4) = 3$$

4. $abc + c^2$ for $a = 2$, $b = -3$, $c = -6$

$$(2)(-3)(-6) + (-6)^2$$

$$-6(-6) + (-6)^2$$

$$36 + 36 = \underline{72}$$

5. $\frac{7^2}{10-3} + 2(5-3) - 17$

$$\frac{49}{7} + 2(2) - 17$$

$$7 + 4 - 17 = -6$$

6. $3[(8 - 2) + 6 \cdot 4 - 3]$

$$3[6 + 6 \cdot 4 - 3]$$

$$3[6 + 24 - 3]$$

$$3[27]$$

$$\underline{81}$$

7. $2(3x - 4) - (4x + 6)$

$$6x + (-8) + (-4x) + (-6)$$

$$2x + (-14)$$

$$\underline{2x - 14}$$

8. $12 + 4(x^2 + 3) - 12x^2$

$$12 + 4x^2 + 12 + (-12x^2)$$

$$\underline{-8x^2 + 24}$$

9. $-t^2 + r$ for $t = -3$ and $r = 5$

$$-(-3)^2 + (5)$$

$$-1(9) + 5$$

$$-9 + 5$$

$$\underline{-4}$$