

Evaluate the following.

1. $8 + 2x$ when $x = 4$

$$8 + 2(4)$$

$$8 + 8$$

$$\boxed{16}$$

2. $4(2x + 3)$ when $x = -2$

$$8x + 12$$

$$8(-2) + 12$$

$$-16 + 12$$

$$\boxed{-4}$$

3. $x^2 - 3$ when $x = 5$

$$(5)^2 - 3$$

$$25 - 3$$

$$\boxed{22}$$

4. $5 + (n - 2)$ when $n = 4$

$$5 + (4 - 2)$$

$$5 + 2$$

$$\boxed{7}$$

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

$$3(3) + 2(-2) - 1$$

$$9 - 4 - 1$$

$$5 - 1$$

$$\boxed{4}$$

6. $-2(3 + x) + 3y$ when $x = 4$
and $y = 2$

$$-2(3 + 4) + 3(2)$$

$$-2(7) + 6$$

$$-14 + 6$$

$$\boxed{-8}$$

7. $4h + 5 - 2h$ when $h = 6$

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

$$24 + 5 - 12$$

$$29 - 12$$

$$\boxed{17}$$

8. $3w + (w + g)$ when $w = 3$
and $g = -2$

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

$$9 + 1$$

$$\boxed{10}$$

9. $\frac{2n+4}{n}$ when $n = 4$

$$\frac{2(4) + 4}{4} = \frac{8 + 4}{4} = \frac{12}{4}$$

$$\boxed{3}$$

Write an algebraic expression for each situation. Evaluate the expression for the given values.

10. Bob has 6 pies. He bakes 2 pies every hour.
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- How many pies does he have after
- h
- hours?

$$\boxed{6 + 2h}$$

- a. How many pies will he have in 4 hours?

$$6 + 2(4)$$

$$6 + 8$$

$$\boxed{14 \text{ pies}}$$

- b. How many pies will he have in 5 hours?

$$6 + 2(5)$$

$$6 + 10$$

$$\boxed{16 \text{ pies}}$$

- c. How many pies will he have in 10 hours?

$$6 + 2(10)$$

$$6 + 20$$

$$\boxed{26 \text{ pies}}$$

11. The temperature at noon is 18° . The temperature raises 3 degrees every hour. What is the temperature after h hours?

$$18 + 3h$$

- a. What is the temperature after 1 hours?

$$18 + 3(1) = 18 + 3 = 21^\circ$$

- b. What is the temperature after 2 hours?

$$18 + 3(2) = 18 + 6 = 24^\circ$$

- c. What is the temperature after 3.5 hours?

$$18 + 3(3.5) = 18 + 10.5 = 28.5^\circ$$

12. Museum tickets for adults cost \$5. Tickets for children cost \$3. What is the total cost if you buy a adult tickets and c children tickets?

$$5a + 3c$$

- a. How much would you spend if you buy 3 adult tickets and 4 children tickets?

$$5(3) + 3(4) = 15 + 12 = \$27$$

- b. How much would you spend if you buy 4 adult tickets and 5 children tickets?

$$5(4) + 3(5) = 20 + 15 = \$35$$

Multiple Choice

13. Which value of x makes $3x + 4 = 16$ a true statement?

(A) $x = 3$

(B) $x = 4$

(C) $x = 5$

(D) $x = 6$

$$3(4) + 4 = 16$$

$$12 + 4 = 16$$

$$16 = 16$$

14. Which value of y makes $2(y - 5) = 8$ a true statement?

(A) $y = 7$

(B) $y = 8$

(C) $y = 9$

(D) $y = 10$

$$2(9 - 5) = 8$$

$$2(4) = 8$$

$$8 = 8$$

15. Which value of x makes $-7 = 2x + 3$ a true statement?

(A) $x = -2$

(B) $x = -3$

(C) $x = -4$

(D) $x = -5$

$$-7 = 2(-5) + 3$$

$$-7 = -10 + 3$$

$$-7 = -7$$

16. Which value of n makes $-3n - 4 = -19$ a true statement?

(A) $n = 5$

(B) $n = 6$

(C) $n = -5$

(D) $n = -6$

$$-3(5) - 4 = -19$$

$$-15 - 4 = -19$$

$$-19 = -19$$