

2.3 - Mixed Practice

Date _____ Period _____

Use the following functions to evaluate

$$f(x) = x + 2 \quad g(x) = x^2 + 3x + 1 \quad h(x) = 2x^2 - 3 \quad k(x) = 3 - x$$

1)

1. $f(2) =$

2. $g(4) =$

3. $f(-6) =$

4. $k(5) =$

5. $h(2) =$

6. $k(-2) =$

2) 1. $f(x) + g(x) =$

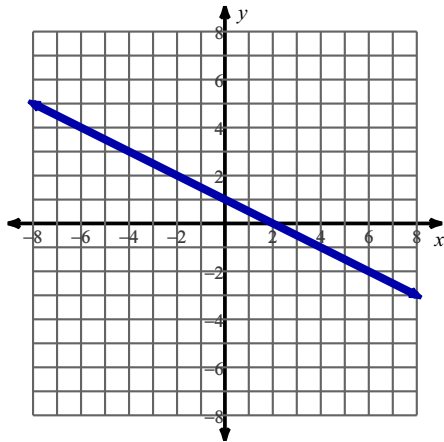
2. $g(x) - h(x) =$

3. $f(x) \cdot g(x) =$

4. $f(x) \cdot 2h(x) =$

Find the indicated values by using the graph.

3)



4) $f(2)$

$f(-6)$

$f(\quad) = 2$

$f(\quad) = -2$

Name each polynomial by degree and number of terms.

5) $-7 - 3v - 4v^2$

- A) quadratic trinomial
- B) quadratic monomial
- C) linear monomial
- D) cubic binomial

6) $4b - 7$

- A) quadratic monomial
- B) linear binomial
- C) constant binomial
- D) linear monomial

Simplify each expression.

7) $(2x^2 - 2x) - (4x - 3x^2)$

8) $(-8n^3 + 4n^2) - (2n^2 + 8n^3)$

9) $(-5x^4 - 2x^2) - (-4x^3 - 6x^2 + 4x^4)$

10) $(n^3 - 4n) - (-8n^3 + 3n + n^2)$

11) $(-4n^4 - 8n + 8n^2) + (2n^3 + 3n^4 - 3n)$

12) $(-8 + 4x) - (-x^3 + 6x - 5) + (3 - 2x^3)$

Find each product.

13) $7(4b + 4)$

14) $4(4n + 7)$

15) $(3r - 7)(5r - 7)$

16) $(3x + 2)(5x - 4)$

17) $(7x + 4)(8x - 2)$

18) $(8x - 6)(7x - 3)$

19) $(7n - 6)(n^2 + 8n + 1)$

20) $(5b - 2)(6b^2 - 2b + 4)$

Review: Solve each equation.

21) $3 + 5(8 - r) = 83$

22) $-8x + 5 = -3 - 6x$

23) $-31 - 3x = -7(x + 1)$

24) $\frac{3}{9} = \frac{10}{n + 1}$

Review: Solve each equation for the indicated variable.

25) $z = am + b$, for a

26) $x + k = v - w$, for x

A) $a = -\frac{m}{z + b}$

B) $a = \frac{-z - b}{m}$

A) $x = -k + v - w$

B) $x = -k - v + w$

C) $a = \frac{z - b}{m}$

D) $a = mz + mb$

C) $x = v + w + k$

D) $x = k + v - w$

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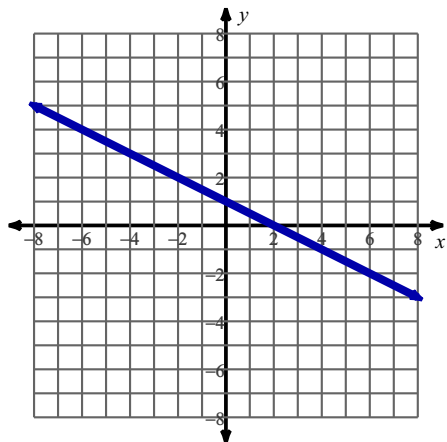
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Simplify each expression.

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$$5x^2 - 6x$$

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$$-9x^4 + 4x^3 + 4x^2$$

$$11) (-4n^4 - 8n + 8n^2) + (2n^3 + 3n^4 - 3n)$$
$$-n^4 + 2n^3 + 8n^2 - 11n$$

$$8) (-8n^3 + 4n^2) - (2n^2 + 8n^3)$$
$$-16n^3 + 2n^2$$

$$10) (n^3 - 4n) - (-8n^3 + 3n + n^2)$$
$$9n^3 - n^2 - 7n$$

$$12) (-8 + 4x) - (-x^3 + 6x - 5) + (3 - 2x^3)$$
$$-x^3 - 2x$$

Find each product.

$$13) 7(4b + 4)$$
$$28b + 28$$

$$15) (3r - 7)(5r - 7)$$
$$15r^2 - 56r + 49$$

$$17) (7x + 4)(8x - 2)$$
$$56x^2 + 18x - 8$$

$$19) (7n - 6)(n^2 + 8n + 1)$$
$$7n^3 + 50n^2 - 41n - 6$$

$$14) 4(4n + 7)$$
$$16n + 28$$

$$16) (3x + 2)(5x - 4)$$
$$15x^2 - 2x - 8$$

$$18) (8x - 6)(7x - 3)$$
$$56x^2 - 66x + 18$$

$$20) (5b - 2)(6b^2 - 2b + 4)$$
$$30b^3 - 22b^2 + 24b - 8$$

Review: Solve each equation.

$$21) 3 + 5(8 - r) = 83$$
$$\{-8\}$$

$$23) -31 - 3x = -7(x + 1)$$
$$\{6\}$$

$$22) -8x + 5 = -3 - 6x$$
$$\{4\}$$

$$24) \frac{3}{9} = \frac{10}{n + 1}$$
$$\{29\}$$

Review: Solve each equation for the indicated variable.

$$25) z = am + b, \text{ for } a$$

$$A) a = -\frac{m}{z + b}$$

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$$*C) a = \frac{z - b}{m}$$

$$D) a = mz + mb$$

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$$*A) x = -k + v - w$$

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