

**ALGEBRA II HONORS Expressions and Formulas**Evaluate each expression if  $a = -4$ ,  $b = 6$ , and  $c = -9$ .**SECTION A**

1.  $3ab - 2bc$

2.  $a^3 + c^2 - 3b$

3.  $2ac - 12b$

4.  $b(a - c) - 2b$

5.  $\frac{ac}{b} + \frac{2b}{a}$

6.  $\frac{3b - 4c}{2b - (c - b)}$

7.  $\frac{3ab}{c} + \frac{2c}{b}$

8.  $\frac{b^2}{ac} - c$

Evaluate each expression if  $r = -1$ ,  $n = 3$ ,  $t = 12$ ,  $v = 0$ , and  $w = -\frac{1}{2}$ .

9.  $6r + 2n$

10.  $2nt - 4rn$

11.  $w(n - r)$

12.  $n + 2r - 16v$

13.  $(4n)^2$

14.  $n^2r - wt$

15.  $2(3r + w)$

16.  $\frac{3v + t}{5n - t}$

17.  $-w[t + (t - r)]$

18.  $\frac{rv^3}{n^2}$

19.  $9r^2 + (n^2 - 1)t$

20.  $7n - 2v + \frac{2w}{r}$

21. **TEMPERATURE** The formula  $K = C + 273$  gives the temperature in kelvins (K) for a given temperature in degrees Celsius. What is the temperature in kelvins when the temperature is 55 degrees Celsius?

22. **TEMPERATURE** The formula  $C = \frac{5}{9}(F - 32)$  gives the temperature in degrees Celsius for a given temperature in degrees Fahrenheit. What is the temperature in degrees Celsius when the temperature is 68 degrees Fahrenheit?

**SECTION A**

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## Expressions and Formulas

## SECTION B

Evaluate each expression.

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2.  $4(12 - 4^2)$

3.  $1 + 2 - 3(4) \div 2$

4.  $12 - [20 - 2(6^2 \div 3 \times 2^2)]$

5.  $20 \div (5 - 3) + 5^2(3)$

6.  $(-2)^3 - (3)(8) + (5)(10)$

7.  $18 - \{5 - [34 - (17 - 11)]\}$

8.  $[4(5 - 3) - 2(4 - 8)] \div 16$

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24. **PHYSICS** The formula  $h = 120t - 16t^2$  gives the height  $h$  in feet of an object  $t$  seconds after it is shot upward from Earth's surface with an initial velocity of 120 feet per second. What will the height of the object be after 6 seconds?

25. **AGRICULTURE** Faith owns an organic apple orchard. From her experience the last few seasons, she has developed the formula  $P = 20x - 0.01x^2 - 240$  to predict her profit  $P$  in dollars this season if her trees produce  $x$  bushels of apples. What is Faith's predicted profit this season if her orchard produces 300 bushels of apples?

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**SECTION A**

## ALGEBRA II HONORS

## Expressions and Formulas

## SECTION B

Evaluate each expression.

1.  $3(4 - 7) - 11$

2.  $4(12 - 4^2)$

3.  $1 + 2 - 3(4) \div 2$

4.  $12 - [20 - 2(6^2 \div 3 \times 2^2)]$

5.  $20 \div (5 - 3) + 5^2(3)$

6.  $(-2)^3 - (3)(8) + (5)(10)$

7.  $18 - \{5 - [34 - (17 - 11)]\}$

8.  $[4(5 - 3) - 2(4 - 8)] \div 16$

9.  $\frac{1}{2}[6 - 4^2]$

10.  $\frac{1}{4}[-5 + 5(-3)]$

11.  $\frac{-8(13 - 37)}{6}$

12.  $\frac{(-8)^2}{5 - 9} - (-1)^2 + 4(-9)$

Evaluate each expression if  $a = \frac{3}{4}$ ,  $b = -8$ ,  $c = -2$ ,  $d = 3$ , and  $g = \frac{1}{3}$ .

13.  $ab^2 - d$

14.  $(c + d)b$

15.  $\frac{ab}{c} + d^2$

16.  $\frac{d(b - c)}{ac}$

17.  $(b - dg)g^2$

18.  $ac^3 - b^2dg$

19.  $-b[a + (c - d)^2]$

20.  $\frac{ac^4}{d} - \frac{c}{g^2}$

21.  $9bc - \frac{1}{g}$

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23. **TEMPERATURE** The formula  $F = \frac{9}{5}C + 32$  gives the temperature in degrees Fahrenheit for a given temperature in degrees Celsius. What is the temperature in degrees Fahrenheit when the temperature is  $-40$  degrees Celsius?

24. **PHYSICS** The formula  $h = 120t - 16t^2$  gives the height  $h$  in feet of an object  $t$  seconds after it is shot upward from Earth's surface with an initial velocity of 120 feet per second. What will the height of the object be after 6 seconds?

25. **AGRICULTURE** Faith owns an organic apple orchard. From her experience the last few seasons, she has developed the formula  $P = 20x - 0.01x^2 - 240$  to predict her profit  $P$  in dollars this season if her trees produce  $x$  bushels of apples. What is Faith's predicted profit this season if her orchard produces 300 bushels of apples?

## SECTION B

**ALGEBRA II HONORS**      **Expressions and Formulas**Evaluate each expression if  $a = -4$ ,  $b = 6$ , and  $c = -9$ .**SECTION A**

1.  $3ab - 2bc$

2.  $a^3 + c^2 - 3b$

3.  $2ac - 12b$

4.  $b(a - c) - 2b$

5.  $\frac{ac}{b} + \frac{2b}{a}$

6.  $\frac{3b - 4c}{2b - (c - b)}$

7.  $\frac{3ab}{c} + \frac{2c}{b}$

8.  $\frac{b^2}{ac} - c$

Evaluate each expression if  $r = -1$ ,  $n = 3$ ,  $t = 12$ ,  $v = 0$ , and  $w = -\frac{1}{2}$ .

9.  $6r + 2n$

10.  $2nt - 4rn$

11.  $w(n - r)$

12.  $n + 2r - 16v$

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1.  $3(4 - 7) - 11$

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15.  $\frac{ab}{c} + d^2$

16.  $\frac{d(b - c)}{ac}$

17.  $(b - dg)g^2$

18.  $ac^3 - b^2dg$

19.  $-b[a + (c - d)^2]$

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23. **TEMPERATURE** The formula  $F = \frac{9}{5}C + 32$  gives the temperature in degrees Fahrenheit for a given temperature in degrees Celsius. What is the temperature in degrees Fahrenheit when the temperature is  $-40$  degrees Celsius?

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**SECTION B**

**ALGEBRA II HONORS Expressions and Formulas**Evaluate each expression if  $a = -4$ ,  $b = 6$ , and  $c = -9$ .**SECTION A**

1.  $3ab - 2bc$

2.  $a^3 + c^2 - 3b$

3.  $2ac - 12b$

4.  $b(a - c) - 2b$

5.  $\frac{ac}{b} + \frac{2b}{a}$

6.  $\frac{3b - 4c}{2b - (c - b)}$

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Evaluate each expression if  $r = -1$ ,  $n = 3$ ,  $t = 12$ ,  $v = 0$ , and  $w = -\frac{1}{2}$ .

9.  $6r + 2n$

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11.  $w(n - r)$

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**SECTION A**

## ALGEBRA II HONORS

## Expressions and Formulas

## SECTION B

Evaluate each expression.

1.  $3(4 - 7) - 11$

2.  $4(12 - 4^2)$

3.  $1 + 2 - 3(4) \div 2$

4.  $12 - [20 - 2(6^2 \div 3 \times 2^2)]$

5.  $20 \div (5 - 3) + 5^2(3)$

6.  $(-2)^3 - (3)(8) + (5)(10)$

7.  $18 - \{5 - [34 - (17 - 11)]\}$

8.  $[4(5 - 3) - 2(4 - 8)] \div 16$

9.  $\frac{1}{2}[6 - 4^2]$

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## ALGEBRA II HONORS

## Expressions and Formulas

## SECTION B

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**ALGEBRA II HONORS Expressions and Formulas****SECTION B**

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4.  $b(a - c) - 2b$

5.  $\frac{ac}{b} + \frac{2b}{a}$

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Evaluate each expression if  $r = -1$ ,  $n = 3$ ,  $t = 12$ ,  $v = 0$ , and  $w = -\frac{1}{2}$ .

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**SECTION A**

**ALGEBRA II HONORS Expressions and Formulas****SECTION B****Evaluate each expression.**

1.  $3(4 - 7) - 11$

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3.  $1 + 2 - 3(4) \div 2$

4.  $12 - [20 - 2(6^2 \div 3 \times 2^2)]$

5.  $20 \div (5 - 3) + 5^2(3)$

6.  $(-2)^3 - (3)(8) + (5)(10)$

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8.  $[4(5 - 3) - 2(4 - 8)] \div 16$

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10.  $\frac{1}{4}[-5 + 5(-3)]$

11.  $\frac{-8(13 - 37)}{6}$

12.  $\frac{(-8)^2}{5 - 9} - (-1)^2 + 4(-9)$

**Evaluate each expression if  $a = \frac{3}{4}$ ,  $b = -8$ ,  $c = -2$ ,  $d = 3$ , and  $g = \frac{1}{3}$ .**

13.  $ab^2 - d$

14.  $(c + d)b$

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**SECTION A**

## ALGEBRA II HONORS

## Expressions and Formulas

## SECTION B

Evaluate each expression.

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**SECTION A**

**ALGEBRA II HONORS Expressions and Formulas****SECTION B**

Evaluate each expression.

1.  $3(4 - 7) - 11$

2.  $4(12 - 4^2)$

3.  $1 + 2 - 3(4) \div 2$

4.  $12 - [20 - 2(6^2 \div 3 \times 2^2)]$

5.  $20 \div (5 - 3) + 5^2(3)$

6.  $(-2)^3 - (3)(8) + (5)(10)$

7.  $18 - \{5 - [34 - (17 - 11)]\}$

8.  $[4(5 - 3) - 2(4 - 8)] \div 16$

9.  $\frac{1}{2}[6 - 4^2]$

10.  $\frac{1}{4}[-5 + 5(-3)]$

11.  $\frac{-8(13 - 37)}{6}$

12.  $\frac{(-8)^2}{5 - 9} - (-1)^2 + 4(-9)$

Evaluate each expression if  $a = \frac{3}{4}$ ,  $b = -8$ ,  $c = -2$ ,  $d = 3$ , and  $g = \frac{1}{3}$ .

13.  $ab^2 - d$

14.  $(c + d)b$

15.  $\frac{ab}{c} + d^2$

16.  $\frac{d(b - c)}{ac}$

17.  $(b - dg)g^2$

18.  $ac^3 - b^2dg$

19.  $-b[a + (c - d)^2]$

20.  $\frac{ac^4}{d} - \frac{c}{g^2}$

21.  $9bc - \frac{1}{g}$

22.  $2ab^2 - (d^3 - c)$

23. **TEMPERATURE** The formula  $F = \frac{9}{5}C + 32$  gives the temperature in degrees Fahrenheit for a given temperature in degrees Celsius. What is the temperature in degrees Fahrenheit when the temperature is  $-40$  degrees Celsius?

24. **PHYSICS** The formula  $h = 120t - 16t^2$  gives the height  $h$  in feet of an object  $t$  seconds after it is shot upward from Earth's surface with an initial velocity of 120 feet per second. What will the height of the object be after 6 seconds?

25. **AGRICULTURE** Faith owns an organic apple orchard. From her experience the last few seasons, she has developed the formula  $P = 20x - 0.01x^2 - 240$  to predict her profit  $P$  in dollars this season if her trees produce  $x$  bushels of apples. What is Faith's predicted profit this season if her orchard produces 300 bushels of apples?

**SECTION B**