

**www.alvarezmathhelp.com****MULTIPLE CHOICE.** Choose the one alternative that best completes the statement or answers the question.**Solve the equation.**

1)  $x^2 - 7x - 18 = 0$  1) \_\_\_\_\_  
 A) 9, -2                      B) -9, 2                      C) -9, -2                      D) -18, 0

Objective: (13.6) Solve quadratic equations by factoring.  
 m77-15 m57-11 m53-7 m50-4

2)  $2x^2 - 7x - 9 = 0$  2) \_\_\_\_\_  
 A)  $\frac{9}{2}, -1$                       B)  $\frac{2}{9}, -1$                       C)  $\frac{2}{9}, 1$                       D)  $\frac{2}{9}, 0$

Objective: (13.6) Solve quadratic equations by factoring.  
 m77-22 m57-18 m53-14 m50-7

3)  $15x^2 - 8x = 0$  3) \_\_\_\_\_  
 A)  $\frac{8}{15}, 0$                       B)  $\frac{15}{8}, 0$                       C)  $-\frac{8}{15}, 0$                       D)  $-\frac{15}{8}, 0$

Objective: (13.6) Solve quadratic equations by factoring.  
 m77-26 m57-12 m53-8 m50-8

4)  $3x^2 + 21x + 36 = 0$  4) \_\_\_\_\_  
 A) -4, -3                      B)  $-\frac{1}{2}, \frac{1}{2}$                       C) 3, 4                      D) 7, 8

Objective: (13.6) Solve quadratic equations by factoring.  
 m77-31 m57-14 m53-10 m50-10

5)  $10x^3 + 70x^2 + 120x = 0$  5) \_\_\_\_\_  
 A) 0, -3, -4                      B) -3, -4                      C) 0, 3, 4                      D)  $-\frac{1}{3}, -4$

Objective: (13.6) Solve equations with degree greater than 2 by factoring.  
 m77-32 m57-14 m53-12 m50-12

6)  $9x^3 - 16x = 0$  6) \_\_\_\_\_  
 A)  $\frac{4}{3}, -\frac{4}{3}, 0$                       B)  $\frac{4}{3}$                       C)  $-\frac{4}{3}$                       D)  $\frac{4}{3}, -\frac{4}{3}$

Objective: (13.6) Solve equations with degree greater than 2 by factoring.  
 m77-35 m57-15 m53-11 m50-15

**Find the product and simplify.**

7)  $\frac{2y}{4y+2} \cdot \frac{10y+5}{7}$  7) \_\_\_\_\_  
 A)  $\frac{5y}{7}$                       B)  $\frac{5}{7}$                       C)  $\frac{5y}{14}$                       D)  $\frac{y}{7}$

Objective: (14.2) Multiply rational expressions.  
 m77-40 m57-22 m53-18 m50-17

Find the quotient and simplify.

8)  $\frac{x^2 - y^2}{x + y} \div \frac{x}{x^2 - xy}$

8) \_\_\_\_\_

A)  $(x - y)^2$

B)  $(x + y)$

C)  $(x + y)^2$

D)  $(x - y)(x + y)$

Objective: (14.2) Divide rational expressions.

m77-41 m57-23 m53-19 m50-18

Perform the indicated operation. Simplify if possible.

9)  $\frac{x^2 - 8x}{x - 6} + \frac{12}{x - 6}$

9) \_\_\_\_\_

A)  $x - 2$

B)  $x + 6$

C)  $x + 2$

D)  $x - 6$

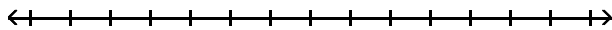
Objective: (14.3) Add and subtract rational expressions with the same denominator.

m77-43 m57-25 m53-21 m50-19

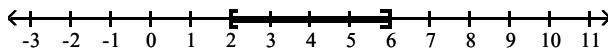
Solve the compound inequality. Graph the solution set.

10)  $13 \leq 4t + 5 \leq 29$

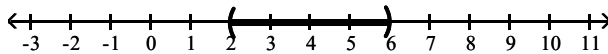
10) \_\_\_\_\_



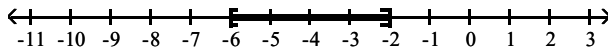
A)  $[2, 6]$



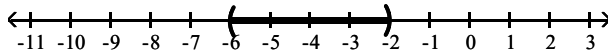
B)  $(2, 6)$



C)  $[-6, -2]$



D)  $(-6, -2)$



Objective: (16.1) Solve compound inequalities containing "and."

m77-51 m57-30 m53-26 m50-20

Solve the absolute value equation.

11)  $|x + 3| = 6$

11) \_\_\_\_\_

A)  $-9, 3$

B)  $9, 3$

C)  $-3$

D)  $\emptyset$

Objective: (16.2) Solve absolute value equations.

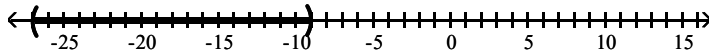
mm77-52 m57-31 m53-27 m50-21

Solve the inequality. Graph the solution set.

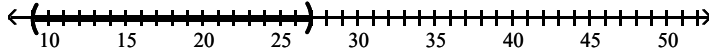
12)  $|x + 18| < 9$

12) \_\_\_\_\_

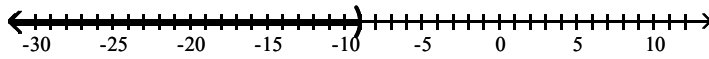
A)  $(-27, -9)$



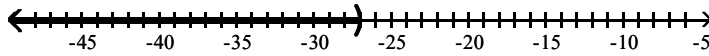
B)  $(9, 27)$



C)  $(-\infty, -9)$



D)  $(-\infty, -27)$



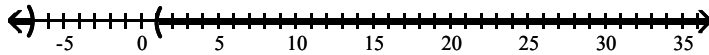
Objective: (16.3) Solve absolute value inequalities of the form  $|X| < a$ .

m77-53 m57-32 m53-28 m50-22

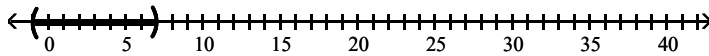
13)  $|x + 3| > 4$

13) \_\_\_\_\_

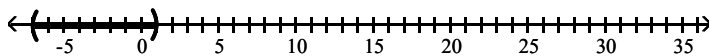
A)  $(-\infty, -7) \cup (1, \infty)$



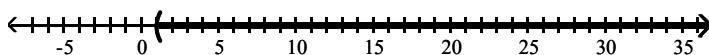
B)  $(-1, 7)$



C)  $(-7, 1)$



D)  $(1, \infty)$



Objective: (16.3) Solve absolute value inequalities of the form  $|X| > a$ .

m77-54 m57-33 m53-29 m50-23

Find the square root. Assume that all variables represent positive real numbers.

14)  $\sqrt{16x^{10}}$

14) \_\_\_\_\_

A)  $4x^5$

B)  $4x^{10}$

C)  $16x^5$

D)  $4x^2$

Objective: (17.1) Find square roots.

m77-55 m57-34 m53-30 m50-24

Use radical notation to write the expression. Simplify if possible.

15)  $256^{1/4}$

15) \_\_\_\_\_

A) 4

B) 16

C) 64

D) 1024

Objective: (17.2) Understand the meaning of  $a^{(1/n)}$ .

m77-58 m57-37 m53-33 m50-27

**Simplify the radical expression. Assume that all variables represent positive real numbers.**

16)  $\sqrt{320k^7q^8}$  16) \_\_\_\_\_  
A)  $8k^3q^4\sqrt{5k}$  B)  $8k^7q^8\sqrt{5k}$  C)  $8k^3q^4\sqrt{5}$  D)  $8q^4\sqrt{5k^7}$

Objective: (17.3) Simplify radicals.  
m77-55 m57-42 m53-38 m50-29

17)  $\sqrt[3]{512x^4y^5}$  17) \_\_\_\_\_  
A)  $8xy\sqrt[3]{xy^2}$  B)  $5xy\sqrt[3]{xy^2}$  C)  $8xy\sqrt[3]{xy}$  D)  $8xy\sqrt{xy^2}$

Objective: (17.3) Simplify radicals.  
m77-56 m57-43 m53-39 m50-30

**Solve.**

18)  $\sqrt{x+4} = 8$  18) \_\_\_\_\_  
A) 60 B) 64 C) 68 D) 144

Objective: (17.6) Solve equations that contain radical expressions.  
m77-65 m57-44 m53-40 m50-33

**Perform the indicated operation. Write the result in the form  $a + bi$ .**

19)  $\frac{8+7i}{9-2i}$  19) \_\_\_\_\_  
A)  $\frac{58}{85} + \frac{79}{85}i$  B)  $\frac{58}{77} - \frac{79}{77}i$  C)  $\frac{86}{85} - \frac{47}{85}i$  D)  $\frac{86}{77} - \frac{79}{77}i$

Objective: (17.7) Divide complex numbers.  
m77-69 m57-48 m53-44 m50-37

**Use the square root property to solve the equation.**

20)  $(x-5)^2 = 36$  20) \_\_\_\_\_  
A) 11, -1 B) -1, -11 C) 6, -6 D) 41

Objective: (18.1) Use the square root property to solve quadratic equations.  
m77-70 m57-49 m53-45 m50-38

**Use the quadratic formula to solve the equation.**

21)  $x^2 + 24x + 144 = 0$  21) \_\_\_\_\_  
A) -12, 12 B) -12 C)  $12 - i, 12 + i$  D) 12

Objective: (18.2) Solve quadratic equations by using the quadratic formula.  
m77-33 m57-52 m53-48 m50-39

22)  $x^2 + 18x + 70 = 0$  22) \_\_\_\_\_  
A)  $9 + \sqrt{11}$  B)  $-18 + \sqrt{70}$   
C)  $9 - \sqrt{70}, 9 + \sqrt{70}$  D)  $-9 - \sqrt{11}, -9 + \sqrt{11}$

Objective: (18.2) Solve quadratic equations by using the quadratic formula.  
m77-73 m57-53 m53-49 m50-40

23)  $x^2 - 8x + 20 = 0$  23) \_\_\_\_\_  
A)  $4 - 2i, 4 + 2i$  B)  $4 - 4i, 4 + 4i$  C)  $4 + 2i$  D) 6, 2

Objective: (18.2) Solve quadratic equations by using the quadratic formula.  
m57-54 m53-50 m50-41

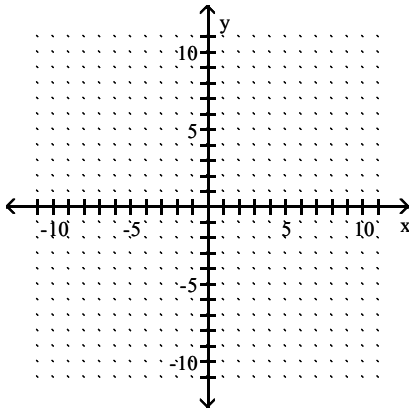
24)  $2x^2 - 7x - 9 = 0$  24) \_\_\_\_\_  
A)  $\frac{2}{9}, 1$  B)  $\frac{9}{2}, -1$  C)  $\frac{2}{9}, 0$  D)  $\frac{2}{9}, -1$

Objective: (18.2) Solve quadratic equations by using the quadratic formula.  
m77-72 m57-51 m53-14 m50-42

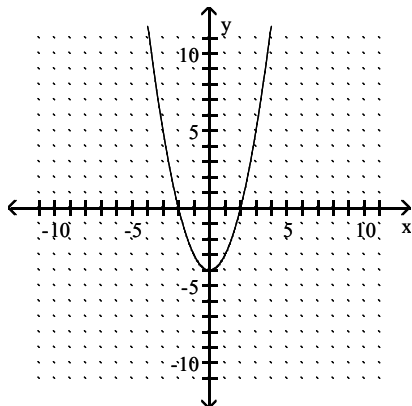
**Sketch the graph of the quadratic function. Give the vertex and axis of symmetry.**

25)  $f(x) = x^2 - 4$

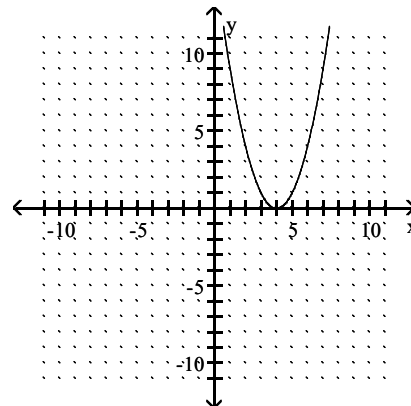
25) \_\_\_\_\_



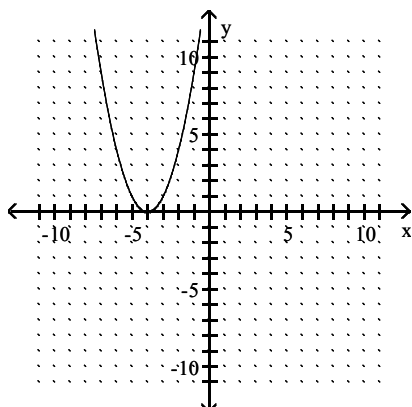
A) vertex (0, -4); axis  $x = 0$



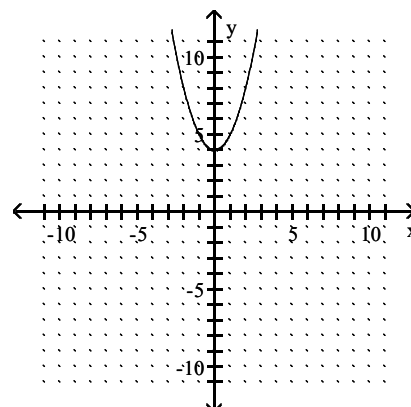
B) vertex (4, 0); axis  $x = 4$



C) vertex (-4, 0); axis  $x = -4$



D) vertex (0, 4); axis  $x = 0$



Objective: (18.5) Graph quadratic functions of the form  $f(x) = x^2 + k$ .  
m77-75 m57-29 m53-51 m50-44

## Answer Key

Testname: AAFM03202018T3

- 1) A
- 2) A
- 3) A
- 4) A
- 5) A
- 6) A
- 7) A
- 8) A
- 9) A
- 10) A
- 11) A
- 12) A
- 13) A
- 14) A
- 15) A
- 16) A
- 17) A
- 18) A
- 19) A
- 20) A
- 21) B
- 22) D
- 23) A
- 24) B
- 25) A