

Aim: How can we solve quadratic equations using the square root method?

Do Now –

**Find each square root.**

1)  $\sqrt{64}$

2)  $\sqrt{36}$

3)  $\sqrt{49}$

4)  $\sqrt{0}$

5)  $\sqrt{25}$

6)  $\sqrt{1}$

7)  $\sqrt{9}$

8)  $\sqrt{4}$

**Find each square root. Round to the nearest whole number.**

9)  $-\sqrt{200}$

10)  $\sqrt{144}$

11)  $-\sqrt{80}$

12)  $-\sqrt{34}$

13)  $-\sqrt{127}$

14)  $\sqrt{1}$

15)  $-\sqrt{36}$

16)  $-\sqrt{148}$

**Find each square root.**

17)  $-\sqrt{\frac{1}{4}}$

18)  $\sqrt{\frac{81}{121}}$

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I – Investigating Different Ways to Solve Quadratic Equations

- 1) Solve  $x^2 = 16$  by graphing
  
  
  
  
  
  
  
  
  
  
- 2) Solve  $x^2 = 16$  by factoring
  
  
  
  
  
  
  
  
  
  
- 3) Solve  $x^2 = 16$  by taking square roots

II – Try them on your own

**Solve each equation by taking square roots.**

1)  $k^2 = 76$

2)  $k^2 = 16$

3)  $x^2 = 21$

4)  $a^2 = 4$

5)  $x^2 + 8 = 28$

6)  $2n^2 = -144$

III- Exploring Further

1. Which of the three methods would you use to solve  $x^2 = 5$ ? Explain, and then use the method to find the solutions.
2. Can the equation  $x^2 = -9$  be solved by any of the three methods? Explain.

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## Homework 2

Name \_\_\_\_\_  
Date: \_\_\_\_\_

MES44QC-Homework 2  
Mr. Pineda

1.

If the area of a rectangle is expressed as  $x^4 - 9y^2$ , then the product of the length and the width of the rectangle could be expressed as

- (1)  $(x - 3y)(x + 3y)$   
 (2)  $(x^2 - 3y)(x^2 + 3y)$   
 (3)  $(x^2 - 3y)(x^2 - 3y)$   
 (4)  $(x^4 + y)(x - 9y)$

3.

What is the solution of the equation  $2(x + 2)^2 - 4 = 28$ ?

- (1) 6, only                      (3) 2 and -6  
 (2) 2, only                      (4) 6 and -2

5.

If  $4x^2 - 100 = 0$ , the roots of the equation are

- (1) -25 and 25                (3) -5 and 5  
 (2) -25, only                (4) -5, only

7.

The zeros of the function  $f(x) = 3x^2 - 3x - 6$  are

- (1) -1 and -2                (3) 1 and 2  
 (2) 1 and -2                (4) -1 and 2

9.

Which expression is equivalent to  $36x^2 - 100$ ?

- (1)  $4(3x - 5)(3x - 5)$       (3)  $2(9x - 25)(9x - 25)$   
 (2)  $4(3x + 5)(3x - 5)$       (4)  $2(9x + 25)(9x - 25)$

2.

What are the zeros of the function  
 $f(x) = x^2 - 13x - 30$ ?

- (1) -10 and 3                (3) -15 and 2  
 (2) 10 and -3                (4) 15 and -2

4.

Which expression is equivalent to  $16x^4 - 64$ ?

- (1)  $(4x^2 - 8)^2$                 (3)  $(4x^2 + 8)(4x^2 - 8)$   
 (2)  $(8x^2 - 32)^2$                 (4)  $(8x^2 + 32)(8x^2 - 32)$

6.

The zeros of the function  $f(x) = (x + 2)^2 - 25$  are

- (1) -2 and 5                (3) -5 and 2  
 (2) -3 and 7                (4) -7 and 3

8.

The solution of the equation  $(x + 3)^2 = 7$  is

- (1)  $3 \pm \sqrt{7}$                 (3)  $-3 \pm \sqrt{7}$   
 (2)  $7 \pm \sqrt{3}$                 (4)  $-7 \pm \sqrt{3}$

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## Answers to HW # 2

Please select the correct answer number for each question. There are more answers than questions. Answers may be repeated.

1) (1)

2) (2)

3) (3)

4) (4)