

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

Algebra 2

Date: \_\_\_\_\_ Per: \_\_\_\_\_

Unit 4: Solving Quadratic Equations

Factoring

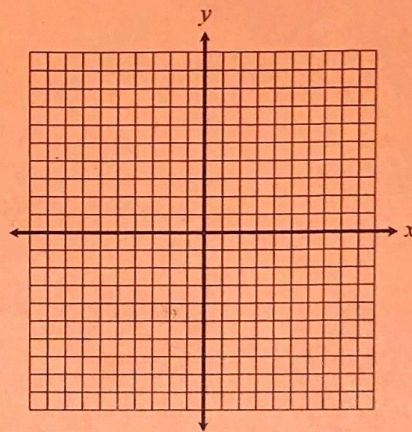
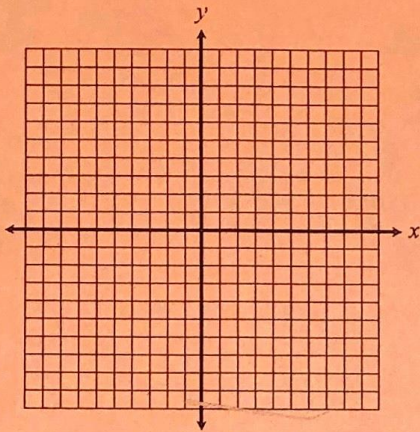
For questions 1-2, find the roots by graphing.

~~skip~~

$f(x) = x^2 - 8x + 12$

~~skip~~

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



1.	_____
2.	_____

For questions 3-12, solve by factoring

3.  $x^2 + 5x - 36 = 0$

4.  $x^2 + 61 = 1 - 17x$

5.  $3x^2 + 112 = 2x^2 + 22x$

6.  $2x^2 + 7x = 42 - x$

3.	_____
4.	_____
5.	_____
6.	_____
7.	_____
8.	_____

7.  $12x^2 + 17x = 5$

8.  $25x^2 = 20x - 4$

9.  $x^2 + 5x = 0$

10.  $8x^2 + 30x = 2x$

9.	_____
10.	_____
11.	_____
12.	_____

11.  $x^2 = 100$

12.  $9x^2 - 6 = 10$

For questions 13-16

Write answers in simplest radical form.

13.  $x^2 - 121 = 0$

14.

$8x^2 - 2x = 15$

13.	_____
14.	_____
15.	_____
16.	_____

15.

$12x^2 - 26x - 7 = 3x + 1$

16.

$2x^2 + 128 = 32x$

skip  
~~17.~~

Write in factored form, then identify the axis of symmetry, vertex, and roots:  $f(x) = -(x + 3)^2 + 16$

Factored Form: \_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_ Vertex: \_\_\_\_\_

Roots: \_\_\_\_\_

skip  
~~18.~~

Write in vertex form, then identify the axis of symmetry, vertex, and roots:  $f(x) = 2(x + 9)(x + 5)$

Vertex Form: \_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_ Vertex: \_\_\_\_\_

Roots: \_\_\_\_\_