

## Chapter 5 Practice Test

Solve for  $x$  using the square root property.

1)  $5x^2 - 7 = 193$

2)  $(7x - 1)^2 = 25$

Solve by factoring and the zero product rule.

3)  $12x^2 - 7x - 10 = 0$

4)  $12x^2 + 25x + 7 = 0$

5)  $4x^2 - 81 = 0$

6)  $16x^2 - 40x + 25 = 0$

Solve by completing the square.

7)  $x^2 + 8x - 2 = 0$

8)  $3x^2 + 4x - 5 = 0$

Solve using the quadratic formula.

9)  $2x^2 + 6x - 3 = 0$

10)  $7x^2 + 3x + 2 = 0$

Evaluate.

11)  $|3 + 4i|$

Add or subtract.

12)  $(2+7i)+(-5+7i)$

13)  $(4-2i) - (5-7i)$

Multiply.

14)  $(3+2i)(4+5i)$

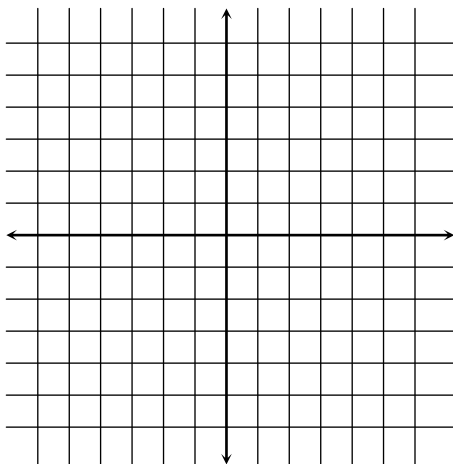
15)  $(4-2i)^2$

Divide.

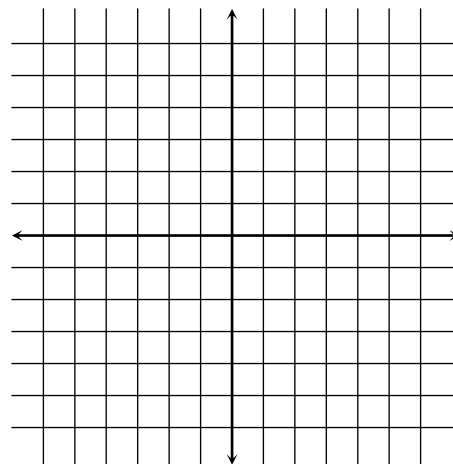
16)  $\frac{2+3i}{1-5i}$

Graph the following quadratic functions using the vertex and a table of values.

17)  $y = -3x^2 + 12x - 7$



18)  $f(x) = 2(x+3)^2 - 3$



19) Joe fired off a rocket. The velocity of the rocket after the burn was 64ft per second and the height of the rocket after the burn was 72 ft.

- a. What was the maximum height of the rocket?
- b. How long did it take to reach this maximum height?
- c. How long did it take for the rocket to touch the ground?
- d. How long did it take for the rocket to reach 40 ft?

20) 1) A parabolic suspension bridge has a main span of 900 *ft* and the maximum height of the bridge is approximately 200 *ft*.

- a) Find the quadratic function that will model the height of the bridge given the horizontal distance from the center of the bridge.
- b) Find the height of the bridge from the road when the horizontal distance from the center is 60 *ft*.