

Homework: 4.8-4.9 Quiz Review

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Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $4x^2 - 3x - 6 = -10$

2) $-2x^2 + 8x - 4 = 4$

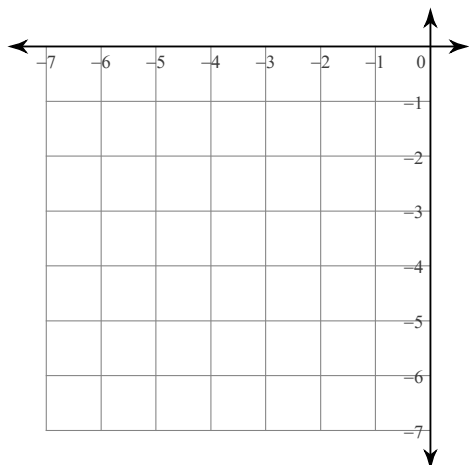
Solve each equation with the quadratic formula.

3) $2m^2 - 11m = 17$

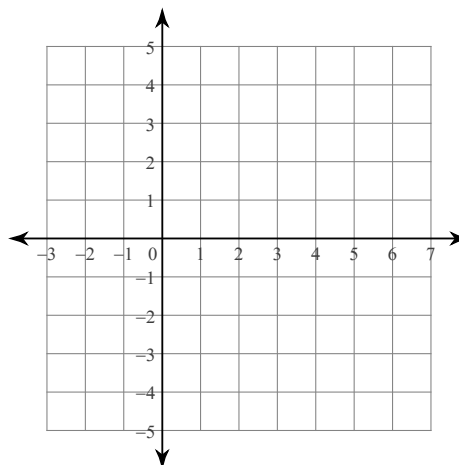
4) $10n^2 = 5 - 3n$

Sketch the graph of each function.

5) $y > -x^2 - 8x - 18$



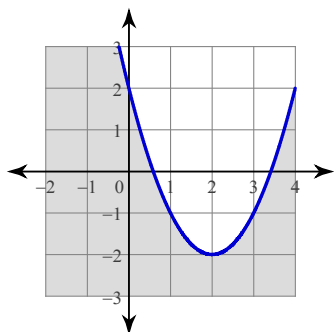
6) $y \leq 2x^2 - 12x + 14$



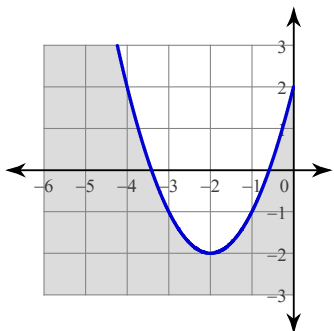
Determine the graph that belongs to each function. Use the clues.

7) $y \leq x^2 - 4x + 2$

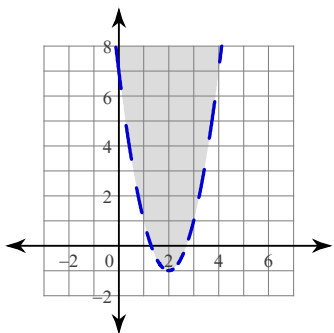
A)



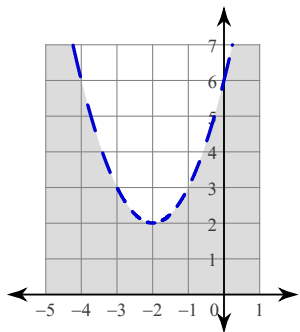
B)



C)

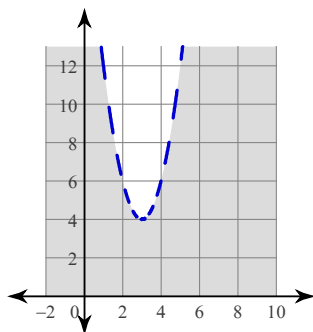


D)

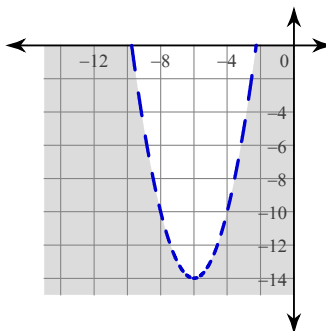


8) $y < 2x^2 - 12x + 22$

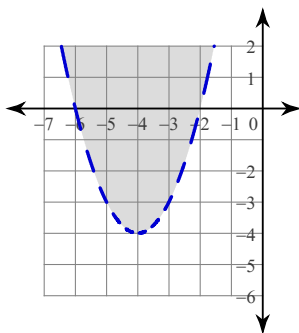
A)



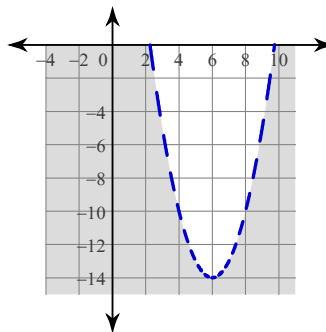
B)



C)



D)



Simplify.

9) $(-7 - 3i) + (3 + i)$

10) $(6 + i) - (3 - 3i)$

11) $(3i)(6 - 8i)$

12) $(-3 + 6i)(-3 + 7i)$

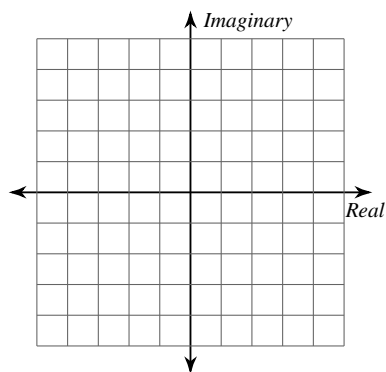
Find the absolute value of each complex number.

13) $|-4 + 10i|$

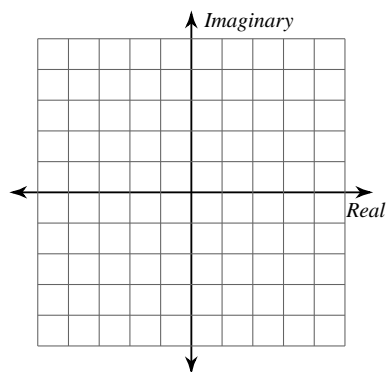
14) $|8 + 4i|$

Graph each number in the complex plane.

15) $5 - i$



16) $-2 + 5i$



Find the value that completes the square and then rewrite as a perfect square.

17) $x^2 + 11x + \underline{\hspace{1cm}}$

- A) 1; $(x + 1)^2$
- B) $\frac{121}{4}$; $\left(x + \frac{11}{2}\right)^2$
- C) 4; $(x - 2)^2$
- D) 1; $(x - 1)^2$

18) $x^2 + 5x + \underline{\hspace{1cm}}$

- A) $\frac{49}{4}$; $\left(x - \frac{7}{2}\right)^2$
- B) 16; $(x - 4)^2$
- C) $\frac{5}{2}$; $\left(x + \frac{5}{2}\right)^2$
- D) $\frac{25}{4}$; $\left(x + \frac{5}{2}\right)^2$

Solve each equation by taking square roots.

19) $-1 - 9k^2 = -127$

20) $10x^2 + 2 = -120$

Solve each equation by completing the square.

21) $x^2 + 12x + 39 = 6$

22) $n^2 + 4n - 62 = -2$

Solve each system by elimination.

23) $-x - 12y = 9$
 $2x + 6y = -18$

24) $2x - 2y = -2$
 $-8x + 6y = 26$

Solve each system by substitution.

25) $y = -2$
 $-6x - 7y = -16$

26) $-x + y = 5$
 $-6x + 3y = 18$