Multiply.

1. (2n – 4)(n2 + 6n – 4) 2. 7(7k - 3)(k2 – 2k)

Solve for x.

3. x2 + 5 = 126 4. 7x2 = 343

5. 7x2 - 6 = 57 6. ½ (x - 4)2 + 2 = 10

7. (x + 1)2 - 9 = 0 8. x2 - 3x + 10 = 0

 4

9. n2 + 3n - 12 = 6 10. -x2 + 4x - 5 = 0

11. 5x2 + 12x + 8 = 0

Find the number of solutions.

12. -2x2 – 8x – 14 = -6 13. 9m2 + 6m + 6 = 5

14. Which of the following would be a correct step in completing the square to solve for the roots?

**x2 + 2x - 13**

a. x + 12 = 14

b. (x + 1)2 = √14

c. (x + 1)2 = ± 14

d. x2 + 1= ± 14

 Simplify.

15. (-3 + 2i)(-6 -8i) 16. – 6i (8 - 6i)(-8 - 8i)

17. How are the following problems different? (be specific)

Simplify: 2 + x – ( 3 – 2x)

 Simplify: 2 + i - ( 3 -2i )

Find the vertex for the following functions.

18. f (x) = ¼ (x + 5) 2 + 2 Vertex (\_\_\_\_, \_\_\_\_)

19. f (x) = −2(x + 5) 2 − 3 Vertex (\_\_\_\_, \_\_\_\_)

20. f (x) = (x + 2) 2 – 1 Vertex (\_\_\_\_, \_\_\_\_)