Name: _____

Algebra 2

3-Extra Practice

Evaluate.

1. $\sqrt{-40}$

Simplify.

2. $(5 - 10i) + (1 + 2i)$ 　　　　　　　　　　　3. $(1 - 4i)(2 - i)$

Factor.

4. $x^2 + 2x - 15$ 　　　　　　　　　　　5. $3x^2 + 10x + 8$

Solve by factoring.

6. $x^2 - x - 6 = 0$

Solve by graphing.

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

Solve using square roots.

8. $5x^2 + 100 = 0$

Solve by completing the square.

9. $x^2 + 6x + 21 = 0$

Rewrite in standard form.

10. $y = x^2 + 8x + 17$

Use the descriminant to classify the types of solutions.

11. $0 = 3x^2 + 2x - 1$ 　　　　　　　　　　　12. $x^2 - 6x + 9 = 0$

Solve by using the quadratic formula.

13. $6x^2 - 13x - 28 = 0$

Determine most efficient method to solve.

14. $x^2 + 12x + 36 = 0$ 　　　　15. $2(x + 4)^2 + 5 = 0$ 　　　　16. $17x^2 - 36x + 60 = 0$

Solve by any method.

17. $3(x + 4)^2 + 48 = 0$ 　　　　　　　　　　　18. $2x^2 - 5x = 3$

19. A child drops a rock from a bridge 10 feet above the water. The model $h = -16t^2 + h_0$ gives the height of the rock t seconds after being dropped from the initial height h_0. How much time does it take for the rock to hit the water?

Solve.

20. $x^2 - 6x + 8 > 0$ 　　　　　　　　　　　21. $x^2 - 2x + 1 \leq 0$

Answers

1. $2\sqrt{10}i$
2. $6 - 8i$
3. $-2 - 9i$
4. $(x-3)(x+5)$
5. $(3x+4)(x+2)$
6. $-2, 3$
7. $-4, 2$
8. $\pm 2\sqrt{5}i$
9. $-3 \pm 2\sqrt{3}i$
10. $y = (x+4)^2 + 1$
11. 16; two real solutions
12. 0; one real solution
13. $-\frac{4}{3}, \frac{7}{2}$
14. factor
15. square roots
16. quadratic formula
17. $-4 \pm 4i$
18. $-\frac{1}{2}, 3$
19. 0.79 s
20. $x < 2$ or $x > 4$
21. $x = 1$