Algebra 2

3-Review

Take this test as you would take a test in class. When you are finished, check your work against the answers.

3-01

Evaluate.

1. $\sqrt{-75}$

Simplify.

2. $(2+3i)-(3-i)$

3. $(2+3i)(3-i)$

3-02

Factor.

4. $2x^2+x-1$

5. $6x^2+x-12$

Solve by factoring.

6. $x^2-5x+4=0$

3-03

Solve by graphing.

7. $x^2-2x-15=0$

Solve using square roots.

8. $3x^2+48=0$

3-04

Solve by completing the square.

9. $x^2-6x+4=0$

Rewrite in standard form.

10. $y=x^2+2x-2$

3-05

Use the descriminant to classify the types of solutions.

11. $0=2x^2-3x+5$

12. $x^2+4x-4=0$

Solve by using the quadratic formula.

13. $2x^2-3x-2=0$

3-06

Determine most efficient method to solve.

14. $2x^2+36=0$

15. $2x^2+11x+5=0$

16. $x^2-4x-3=0$

Solve by any method.

17. $3x^2-4=2x^2-28$

18. $2x^2+4=9x$

19. A hot-air balloon is 20 feet above the ground while taking place in a competition. The pilot drops a weighted bag and a team member on the ground is supposed to catch it before it hits the ground. The model $h=-16t^2+h_0$ gives the height of the bag t seconds after being dropped from the initial height h_0. How much time does the team member on the ground have to catch the bag?

3-07

Solve.

20. $x^2-4x+3\leq 0$

21. $\mathbf{3x^2>27}$

Answers

1. $5\sqrt{3}i$
2. $-1+4i$
3. $9+7i$
4. $(2x-1)(x+1)$
5. $(2x+3)(3x-4)$
6. $1, 4$
7. $-3, 5$
8. $\pm 4i$
9. $3 \pm \sqrt{5}$
10. $y=(x+1)^2-3$
11. -31; two imaginary solutions
12. 32; two real solutions
13. $-\frac{1}{2}, 2$
14. square roots
15. factoring or quadratic formula
16. quadratic formula
17. $\pm 2\sqrt{6}i$
18. $\frac{1}{2}, 4$
19. 1.12 s
20. $1 \leq x \leq 3$
21. $x<-3$ or $x>3$