Algebra 2

Chapter P and 1 review

Name _____ Date _____

Simplify.

1. $(a^2bc^3)^5$

2. $\left(\frac{a}{3b}\right)^3$

3. $(3x^2 + 7x + 9) + (3x^2 - 7x)$

Multiply.

4. $(5a)(a^2 + 2a - 7)$

5. $(c + 5)(2c + 4)$

6. $(y^2 - 4y)(5y^2 - 2y - 8)$

Simplify.

7. $(12a^2 - 67a - 30) \div (a - 6)$

8. 6% of what number is 0.36?

Factor.

9. $d^2 - 28d + 75$

10. $5m^2 + 6m + 1$

11. $d^2 - 64$

Solve.

12. $(a - 7)(a + 7) = 0$

13. $9 - c^2 = 0$

14. $0 = 25 - 5w - 2w^2$

Solve for the indicated variable.

15. $A = P + Prt$ ; for $P$

16. $Ft = mv_1 - mv_2$ ; for $m$

17. $c + ay = dy$ ; for $y$

Simplify.

18. $\frac{4d + 16}{3d^2} \div \frac{5d + 20}{9d}$

19. $\frac{a}{b} + \frac{c}{d}$

Solve.

20. $\dfrac{5}{n-6} = 1$

21. $\dfrac{4}{9+c} = -\dfrac{1}{3c}$

Simplify.

22. $\sqrt{48}$

23. $\dfrac{\sqrt{98}}{\sqrt{2}}$

24. $\dfrac{9}{\sqrt{7}-4}$

If $a$, $b$, and $c$ are sides of a right triangle ($c$ is the hypotenuse), find the missing side.

25. $a = 1, b = 4$

Solve using the quadratic formula.

26. $0 = v^2 - 16$

27. $5c^2 = 4 + 8c$

Simplify.

28. $(2 + 3i) + (4 + 2i)$

29. $\left(4 - \dfrac{i}{3}\right)\left(2 + \dfrac{i}{3}\right)$

30. $\dfrac{1}{1+i}$

Solve.

31. $c^2 + 2c + 6 = 0$

Find the discriminant and describe the roots.

32. $f^2 + 3f + 5 = 0$

33. Find the distance between $(6, 2)$ and $(13, 2)$.

34. Find the midpoint of the segment connecting $(-6, 0)$ and $(12, 2)$?

Find the center and radius of the circle.

35. $x^2 + y^2 = 64$

36. $(x + 2)^2 + (y - 2)^2 = 4$