

Name:  
Instructor:

Date:  
Section:

## Chapter 7 Test Form A

Simplify the expression, or find the root. Assume that all variables represent positive numbers. Write your answers using only positive exponents.

1.  $\sqrt{320}$

1. \_\_\_\_\_

2.  $\sqrt[3]{-540x^{15}y^{20}}$

2. \_\_\_\_\_

3.  $\left(\frac{1}{625}\right)^{-\frac{1}{4}}$

3. \_\_\_\_\_

4.  $-\sqrt{196x^3y^4z}$

4. \_\_\_\_\_

5.  $a^{\frac{2}{3}}\left(a^{\frac{1}{3}}+a^{\frac{1}{2}}\right)$

5. \_\_\_\_\_

6.  $\left(\frac{36a^{\frac{5}{3}}}{b^{\frac{2}{5}}c^{-\frac{1}{3}}}\right)^{\frac{1}{2}}$

6. \_\_\_\_\_

Simplify. Use absolute value bars when necessary.

7.  $\sqrt{36a^2b^4}$

7. \_\_\_\_\_

Rationalize the denominator. Assume that all variables represent positive numbers.

8.  $\sqrt{\frac{50x^3}{2}}$

8. \_\_\_\_\_

9.  $\frac{\sqrt[3]{ab^2}}{\sqrt[3]{4a^2b}}$

9. \_\_\_\_\_

10.  $\frac{\sqrt{3}-3\sqrt{2}}{\sqrt{3}+\sqrt{2}}$

10. \_\_\_\_\_

Use a calculator to approximate the number to three decimal places.

11.  $210^{-\frac{3}{4}}$

11. \_\_\_\_\_

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**Chapter 7 Test Form A cont'd**

Perform the indicated operations. Assume that all variables represent positive numbers.

12.  $\sqrt{48x^2yz^3} + x\sqrt{3yz^3}$  12. \_\_\_\_\_

13.  $\sqrt[3]{54} - \sqrt[3]{128}$  13. \_\_\_\_\_

14.  $2\sqrt{5}(3\sqrt{20} - \sqrt{10})$  14. \_\_\_\_\_

15.  $(4\sqrt{x} - 3\sqrt{2})^2$  15. \_\_\_\_\_

16.  $(4\sqrt{x} + 2\sqrt{y})(4\sqrt{x} - 2\sqrt{y})$  16. \_\_\_\_\_

Perform the indicated operation and simplify. Write the result in the form  $a + bi$ .

17.  $\sqrt{-20}$  17. \_\_\_\_\_

18.  $(4 + 3i) - (6 - 5i)$  18. \_\_\_\_\_

19.  $(4 - 3i)^2$  19. \_\_\_\_\_

20.  $\frac{2 - 6i}{3 + i}$  20. \_\_\_\_\_

Solve each equation.

21.  $\sqrt{3x - 7} = \sqrt{2x + 5}$  21. \_\_\_\_\_

22.  $\sqrt{4x + 1} - 5 = 2$  22. \_\_\_\_\_

23.  $x - 2 = \sqrt{2x - 5}$  23. \_\_\_\_\_

24. Find the distance between the two points  $(-5, 4)$  and  $(3, 8)$ . 24. \_\_\_\_\_

25. Find the midpoint between the two points  $(3, 6)$  and  $(-4, 8)$ . 25. \_\_\_\_\_

Test 7 – A

- $8\sqrt{5}$
- $-3x^5y^6\sqrt[3]{20y^2}$
- 5
- $-14xy^2\sqrt{xz}$
- $a + a^{\frac{7}{6}}$
- $\frac{6a^{\frac{5}{6}}c^{\frac{1}{6}}}{b^{\frac{1}{5}}}$
- $6|a|b^2$
- $5x\sqrt{x}$
- $\frac{\sqrt[3]{2a^2b}}{2a}$
- $9 - 4\sqrt{6}$
- 0.018
- $5xz\sqrt{3yz}$
- $-\sqrt[3]{2}$
- $60 - 10\sqrt{2}$
- $16x + 18 - 24\sqrt{2x}$
- $16x - 4y$
- $2i\sqrt{5}$
- $-2 + 8i$
- $7 - 24i$
- $0 - 2i$
- 12
- 12
- 3
- $4\sqrt{5}$
- $\left(-\frac{1}{2}, 7\right)$