

Algebra 2B

Name: key

7.1-7.2 Quiz Review

Date/Pd: _____

Rewrite using rational exponent notation.

1. $\sqrt[3]{7}$
 $7^{1/3}$

2. $(\sqrt[3]{5})^2$
 $5^{2/3}$

3. $(\sqrt{11})^5$
 $11^{5/2}$

4. $(\sqrt[6]{12})^{10}$
 $12^{10/6}$
 $12^{5/3}$

5. $(\sqrt[3]{15})^7$
 $15^{7/3}$

6. $(\sqrt[3]{-9})^5$
 $(-9)^{5/3}$

Rewrite using radical notation.

7. $19^{1/3}$
 $\sqrt[3]{19}$

8. $43^{1/5}$
 $\sqrt[5]{43}$

9. $6^{2/3}$
 $(\sqrt[3]{6})^2$

10. $8^{3/4}$
 $(\sqrt[4]{8})^3$

11. $81^{3/2}$
 $(\sqrt{81})^3$

12. $64^{2/3}$
 $(\sqrt[3]{64})^2$

Evaluate without using a calculator.

13. $8^{4/3}$
 $(8^{1/3})^4$
 2^4
 16

14. $36^{3/2}$
 6^3
 216

15. $16^{3/4}$
 $(16^{1/4})^3$
 $(2)^3$
 8

$$16. \left(\sqrt[3]{64}\right)^2$$

$$4^2$$

$$\boxed{16}$$

$$17. \left(\sqrt[5]{32}\right)^2$$

$$(2)^2$$

$$\boxed{4}$$

$$18. \left(\sqrt[5]{4}\right)^5$$

$$2^5$$

$$\boxed{32}$$

$$19. (-64)^{1/3}$$

$$\boxed{-4}$$

$$20. (-8)^{5/3}$$

$$\left[(-8)^{1/3}\right]^5$$

$$(-2)^5$$

$$\boxed{-32}$$

$$21. \left(\sqrt[3]{81}\right)^3$$

$$(9)^3$$

$$\boxed{729}$$

Evaluate using a calculator. Round to nearest hundredth.

$$22. \sqrt[4]{49}$$

$$2.65$$

$$23. \sqrt[9]{19,422}$$

$$3.00$$

$$24. \sqrt[5]{-122}$$

$$-2.61$$

$$25. (116)^{1/6}$$

$$2.21$$

$$26. (25)^{5/2}$$

$$3125$$

$$27. (132)^{2/3}$$

$$25.92$$

Solve the equation. Round to nearest hundredth when appropriate.

$$28. x^2 - 5 = 139$$

$$x^2 = 144$$

$$x = \pm 12$$

$$\{\pm 12\}$$

$$29. 5x^3 = 3650$$

$$\frac{5x^3}{5} = \frac{3650}{5}$$

$$x^3 = 730$$

$$x = 9.00$$

$$\{9.00\}$$

$$30. \sqrt[3]{(x-7)^3} = \sqrt[3]{729}$$

$$x-7 = 9$$

$$+7 \quad +7$$

$$x = 16$$

$$\{16\}$$

Simplify.

31. $x \cdot x^{1/2}$
 $x^{3/2}$

32. $y^{-2/3}$
 $\frac{1}{y^{2/3}}$

33. $(4^{2/3})^6$
 $4^{2/3} = 4^4$
 $= 256$

34. $\frac{y^{2/3}}{y^{1/3}} = \frac{y^{1/3} \cdot \cancel{y^{1/3}}}{\cancel{y^{1/3}}}$
 $= y^{1/3}$

35. $\frac{1}{64^{-1/3}}$
 $64^{1/3} = 4$

36. $z^{2/3} \cdot z^{1/2}$
 $z^{4/6} \cdot z^{3/6} = z^{7/6}$
OR $z^1 z^{1/6}$

37. $\sqrt[3]{16} \cdot \sqrt[3]{4}$
 $\sqrt[3]{64}$
 4

38. $\sqrt[3]{16} \cdot \sqrt[3]{16}$
 $\sqrt[3]{32}$
 4

39. $\frac{\sqrt[4]{32}}{\sqrt[4]{2}} = \frac{\sqrt[4]{2} \cdot \sqrt[4]{16}}{\sqrt[4]{2}}$
 $= \sqrt[4]{16}$
 $= 2$

40. $\frac{\sqrt[3]{250}}{\sqrt[3]{2}} = \frac{\sqrt[3]{125} \cdot \sqrt[3]{2}}{\sqrt[3]{2}}$
 $= \sqrt[3]{125}$
 $= 5$

41. $\sqrt[3]{32}$
 $4 \cdot 8$
 $2 \cdot 2 \cdot 4 \cdot 2$
 2
 $2\sqrt[3]{4}$

42. $\frac{\sqrt[4]{2}}{9}$
SKIP

43. $\sqrt[4]{250x^8y}$
 $16 \quad 16$
 $4 \quad 4 \quad 4 \quad 4$
 $4x^2 \sqrt[4]{y}$

44. $\sqrt{4x^2y}$
 $9z^2$
 $\frac{2x\sqrt{y}}{3z}$

45. $2\sqrt[5]{3} - \sqrt[5]{3}$
like terms
 $\sqrt[5]{3}$

46. $7(2^{1/8}) + 4(2^{1/8})$
 $11(2^{1/8})$

47. $4\sqrt{x} + 2\sqrt{x}$
 $6\sqrt{x}$

