Test 1 (Unit 1 and Unit 2)

Question 1.

Simplify. **A.** $10\sqrt{2}$ **B.** $20\sqrt{10}$ **C.** $2\sqrt{10}$ **D.** $100\sqrt{2}$

Question 2.

Which equation correctly shows that $(x^4)^3 = x^{12}$?

 $\sqrt{200}$

Question 3.

Four expressions are shown below.

$$5\sqrt{x}$$
 $5x^2$ $\frac{5}{2x}$ $\frac{x}{5}$

Which inequality comparing two of the expressions is true when $0.2 \le x \le 0.6$?

A.
$$\frac{x}{5} > 5x^2$$

B. $5\sqrt{x} > \frac{5}{2x}$
C. $\frac{x}{5} > \frac{5}{2x}$
D. $5\sqrt{x} > 5x^2$

Question 4.

An expression is shown below.

 $5\sqrt{33x}$

Which value of *x* makes the expression equivalent to $15\sqrt{33}$?

A. 3B. 9

C. 45

D. 225

Look at the three monomials below.

$$18x^3y^3z^3$$
 $30xy^3z^2$ $10y^2z^2$

What is the least common multiple (LCM) of the monomials shown above?

• A.
$$6xy^3z^2$$

• B. $90x^3y^3z^3$
• C. $90x^4y^6z^5$
• D. $6xy^3$

Question 6.

Simplify: $4\sqrt{7} + 2\sqrt{63}$ **A.** $18\sqrt{7}$ **B.** $10\sqrt{7}$ **C.** $40\sqrt{7}$ **D.** $6\sqrt{7}$

Question 7.

Simplify.		√98
○ A.	2√7	
⊖ В.	14√7	
• c.	49√2	
O D.	7√2	

Question 8.

$14x^{3}y^{4}$ $22x^{4}y^{4}$

What is the greatest common factor (GCF) of the monomials shown above?

• A. $154x^4y^4$ • B. $2x^4y^4$ • C. $154x^7y^8$ • D. $2x^3y^4$ Simplify the following expression.

A. 72⁶
B. 72³
c. 9(24)
D. 8(9³)

Question 10.

Evaluate the following expression when n = 3. |n - 7| - |4 - n|

83.93

A. -5
B. -3
C. 4
D. 3

Question 11.

Solve the following. $\sqrt{12} \times 3\sqrt{3} = ?$ **A.** 18 **B.** $3\sqrt{15}$ **C.** 6 **D.** 5

Question 12.

Two monomials are shown.

240s³t⁶ 4,200s⁴t³

What is the least common multiple (LCM) of these monomials?

- **A.** 120*st*
- **B**. $120s^3t^3$
- C. _{8,400}s⁴t⁶
- **D**. _{8,400s}⁷t⁹

Question 13.

Select the correct symbol.

 $\frac{\pi}{2}$? $\frac{6}{5}$ • **A**. < • **B**. > • **C**. =

Question 14.

The greatest common factor (GCF) of $x^{4k}y^3$ and x^5y^k is x^5y^2 . What is the value of *k*?

A. 1
B. 2
C. 6
D. 20

Question 15.

Simplify. • A. $7\sqrt{3}$ • B. $3\sqrt{7}$ • C. $21\sqrt{3}$ • D. $9\sqrt{7}$

Question 16.

$42x^4y^3$ $30x^3y^3$ $6x^5y^4$

√63

What is the greatest common factor (GCF) of the monomials shown above?

- **A.** 210*x*¹²*y*¹⁰
- **B.** _{6x⁵y⁴</sup>}
- **C.** 6*x*³*y*³
- **D**. _{210x⁵y⁴</sup>}

An expression is shown below.

 $\sqrt{91x}$

For which value of *x* should the expression be further simplified?

A. x = 6
B. x = 10
C. x = 14
D. x = 17

Question 18.

Which of the following inequalities is true for **all** real values of *x*?

• A.
$$4\sqrt{x^2} \le \frac{x}{3}$$

• B. $(3x)^3 \le 4x^2$
• C. $4(x^2 - 3) \le 3(x^2 - 4)$
• D. $\sqrt{4x^2} \le 4x^2$

Question 19.

Simplify.

A. $22\sqrt{3}$ **B.** $264\sqrt{3}$ **C.** $144\sqrt{11}$ **D.** $12\sqrt{11}$

Question 20.

$4x^4y^3z \quad 44x^4y^2z^4$

 $\sqrt{1,584}$

What is the greatest common factor (GCF) of the monomials shown above?

• A. $4x^4y^2z$ • B. $4x^4y^3z^4$ • C. $44x^4y^3z^4$ • D. $44x^8y^5z^5$ Select the correct symbol.

 $\sqrt{38}$? $\frac{33}{5}$ • A. < • B. = • C. >

Question 22.

Evaluate the following expression for z = 257.

 $7 + 8\sqrt{z - 1}$ • A. 240 • B. 127 • C. 135 • D. 143

Question 23.

Order the following list of numbers from least to greatest.

 $\frac{49}{5}$, 9.8 , $\frac{29}{3}$ $\sqrt{94}$

• A. $\frac{29}{3}$, $\frac{49}{5}$, $9.\overline{8}$, $\sqrt{94}$ • B. $\sqrt{94}$, $\frac{49}{5}$, $\frac{29}{3}$, $9.\overline{8}$ • C. $\frac{29}{3}$, $\sqrt{94}$, $\frac{49}{5}$, $9.\overline{8}$ • D. $9.\overline{8}$, $\frac{29}{3}$, $\sqrt{94}$, $\frac{49}{5}$

Answers

- **1.** A
- **2.** B
- **3.** D
- **4.** B
- **5.** B
- **6.** B
- **7.** D
- **8.** D
- **9.** B
- **10.** D
- **11.** A
- **12.** C
- **13.** B
- **14.** B
- **15.** B
- **16.** C
- **17.** C
- **18.** D
- **19.** D
- **20.** A
- **21.** A
- **22.** C
- **23.** C