WRITE ALL ANSWERS ON ANSWER LINE

MAT1033 - Intermediate Algebra - TEST 3
Mr. Foley

Name_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Simplify the expression. If any variables are present, assume that they are positive.

1) $\sqrt[3]{8x^3} \cdot \sqrt[3]{64x^3}$ 1) _____

Use the rules of exponents to simplify the expression. Write the answer with positive exponents. Assume that all variables represent positive real numbers.

2) $\dfrac{x^{3/5}}{x^{6/5} \cdot x^{-5}}$ 2) _____

3) $\left(16\dfrac{a^2b^{-4}}{a^{-2}b^4}\right)^{1/4}$ 3) _____

Find all solutions by factoring.

4) $11m^2 - 9m = 0$ 4) _____

Express the radical in simplified form.

5) $\sqrt[3]{-64}$ 5) _____

6) $\sqrt{-500}$ 6) _____

Simplify the expression involving rational exponents.

7) $-\left(\frac{25}{36}\right)^{1/2}$ 7) _____

8) $(-27)^{1/3}$ 8) _____

9) $8^{-1/3}$ 9) _____

Find the root if it is a real number.

10) $\sqrt[4]{625}$ 10) _____

11) $-\sqrt[3]{-64}$ 11) _____

12) $\sqrt[4]{\frac{81}{256}}$ 12) _____

Express the radical in simplified form. Assume that all variables represent positive real numbers.

13) $\sqrt{384x^2}$ 13) _____

14) $-\sqrt[3]{1000x^4y^5}$ 14) _____

15) $\sqrt[3]{\frac{y^{11}}{64}}$ 15) _____

Add or subtract as indicated. Write the answer in lowest terms.

16) $\frac{1}{x - 6} - \frac{7}{6 - x}$ 16) _____

17) $\frac{3}{y^2 - 3y + 2} + \frac{7}{y^2 - 1}$ 17) _____

18) $\frac{x}{x^2 - 16} - \frac{8}{x^2 + 5x + 4}$ 18) _____

19) $\frac{3}{10x} + \frac{9}{14x^2}$ 19) _____

Find an equation of the line passing through the two points. Write the equation in standard form.

20) (-8, 0) and (-3, 4) 20) _____

Write the rational expression in lowest terms.

21) $\frac{(y - 1)(y - 4)}{(4 - y)(1 + y)}$ 21) _____

Perform the indicated operation and express in lowest terms.

22) $\frac{3x + 8}{x^2 - 2x - 8} - \frac{x + 4}{x^2 - 2x - 8}$ 22) _____

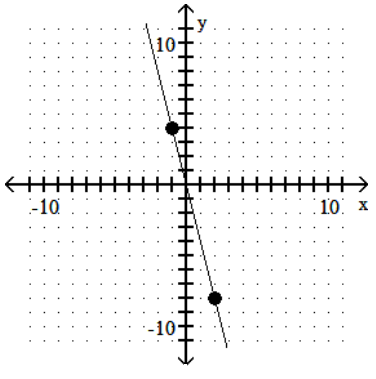
Simplify the complex fraction.

23) $\dfrac{9 + \dfrac{3}{x}}{\dfrac{x}{4} + \dfrac{1}{12}}$ 23) _____

24) $\dfrac{\dfrac{4}{3r - 1} - 4}{\dfrac{4}{3r - 1} + 4}$ 24) _____

Use the coordinates of the indicated points to find the ratio of rise to run for the line.

25) 25) _____



1) $8x^2$
2) $x^{22/5}$
3) $\frac{2a}{b^2}$
4) $\left\{\frac{9}{11}, 0\right\}$
5) -4
6) Not a real number
7) $-\frac{5}{6}$
8) -3
9) $\frac{1}{2}$
10) 5
11) 4
12) $\frac{3}{4}$
13) $8x\sqrt{6}$
14) $-10xy\sqrt[3]{xy^2}$
15) $\frac{y^3\sqrt[3]{y^2}}{4}$
16) $\frac{8}{x - 6}$
17) $\frac{10y - 11}{(y - 1)(y + 1)(y - 2)}$
18) $\frac{x^2 - 7x + 32}{(x - 4)(x + 4)(x + 1)}$
19) $\frac{3(7x + 15)}{70x^2}$
20) $4x - 5y = -32$
21) $\frac{1 - y}{1 + y}$
22) $\frac{2}{x - 4}$
23) $\frac{36}{x}$
24) $\frac{2 - 3r}{3r}$
25) -4