Group Review Assignment Part 2 (Section 9.2 and Chapter 10)

Name_____

MULTIPLE CHOICE. Choose the answer that best completes the statement or answers the question. Write your choice on the blank provided to the right. There is only one correct answer per question. You may write on this paper. If a question appears to not have instructions, the instructions for the previous question apply. Good luck.

Find the root. Assume that all variables represent nonnegative real numbers.

1) $\sqrt[5]{\dfrac{243x^5}{y^{15}}}$

1) _____

A) $\dfrac{3x}{y^3}$

B) $\dfrac{x}{y^3}$

C) $\dfrac{3x}{y^{15}}$

D) $\dfrac{3}{y^3}$

Find the square root. Assume that all variables represent positive real numbers.

2) $\sqrt{324}$

2) _____

A) 19

B) 18

C) 162

D) not a real number

Use the properties of exponents to simplify the expression. Write with positive exponents.

3) $\dfrac{x^{-3/5} \cdot x^{4/3}}{x^{4/7}}$

3) _____

A) $x^{17/105}$

B) $\dfrac{1}{x^{17/105}}$

C) $x^{137/105}$

D) $\dfrac{1}{x^{137/105}}$

Use the product rule to multiply. Assume all variables represent positive real numbers.

4) $\sqrt{5x^3} \cdot \sqrt{5x^5}$

4) _____

A) $\sqrt{5x^4}$

B) $\sqrt{25x^8}$

C) $x^4\sqrt{10}$

D) $5x^4$

Add or subtract. Assume all variables represent positive real numbers.

5) $\sqrt{6a} + 7\sqrt{216a} - 3\sqrt{150a}$

5) _____

A) $28\sqrt{6a}$

B) $4\sqrt{6a}$

C) $28\sqrt{372a}$

D) $4\sqrt{372a}$

Rationalize the <u>numerator</u> and simplify. Assume all variables represent positive real numbers.

6) $\dfrac{7\sqrt{x}}{\sqrt{6y}}$

6) _____

A) $\dfrac{7x}{\sqrt{6y}}$

B) $\dfrac{7x}{\sqrt{42xy}}$

C) $\dfrac{7x}{\sqrt{6xy}}$

D) $\dfrac{7\sqrt{6xy}}{6y}$

Solve.

7) $-\sqrt{2x + 7} = -4$

7) _____

A) $\dfrac{9}{2}$

B) 18

C) $\dfrac{2}{9}$

D) ∅

Find the root. Assume that all variables represent nonnegative real numbers.

8) $-\sqrt[4]{81}$

8) _____

A) -3

B) 9

C) 4.264

D) not a real number

Find the cube root.

9) $\sqrt[3]{\dfrac{x^{12}}{216y^6}}$

9) _____

A) $\dfrac{6y^2}{x^4}$

B) $\dfrac{x^3}{6y^3}$

C) $\dfrac{x^4}{6y^2}$

D) $\dfrac{x^4}{36y^2}$

Find the distance between the pair of points.

10) (3.3, 5.2) and (−8.1, 3.6)

Approximate the distance to two decimal places.

10) _____

A) 10.02 units

B) 5.06 units

C) 14.4 units

D) 11.51 units

Solve the absolute value equation.

11) $|x| = 9$

11) _____

A) −9

B) 9

C) 81

D) 9, −9

12) $|2x + 3| = 4$

 12) _____

A) $\dfrac{1}{2}, -\dfrac{7}{2}$

B) $\dfrac{1}{3}, -\dfrac{7}{3}$

C) $-\dfrac{1}{2}, \dfrac{7}{2}$

D) $\emptyset$

Fill in the blank.

13) A number's distance from 0 is called its _____ .

 13) _____

A) union

B) solution

C) intersection

D) absolute value

Solve the absolute value equation.

14) $|6x + 3| + 2 = 6$

 14) _____

A) $\dfrac{1}{6}, -\dfrac{7}{6}$

B) $-\dfrac{1}{6}, \dfrac{7}{6}$

C) $\dfrac{1}{3}, -\dfrac{7}{3}$

D) $\emptyset$

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

15) $(30 - 5i)(6 + i)$ 15) _____

     A) 185

     B) 185 – 30i

     C) 185 – 60i

     D) 175

16) $\dfrac{7}{6i}$ 16) _____

     A) $\dfrac{6}{7}i$

     B) $-\dfrac{7}{6}i$

     C) $\dfrac{7}{6}i$

     D) $-\dfrac{6}{7}i$

Write in terms of i.

17) $\sqrt{-9}$ 17) _____

     A) ±3

     B) –3i

     C) 3i

     D) $-i\sqrt{3}$

Find the power of i.

18) $(2i)^4$ 18) _____

A) 16

B) –16

C) 16i

D) –16i

1) A
2) B
3) A
4) D
5) A
6) C
7) A
8) A
9) C
10) D
11) D
12) A
13) D
14) A
15) A
16) B
17) C
18) A