Unit 1 Name_____

Review

Period____

1.1 Evaluate each expression.

1) $\left(\frac{-21}{-7}\right)(9-8)$

2) $((-10)-5)\times 5-9$

3) $(-2)((-6)-(-6))-8$

4) $(-8)+1+2^2$

1.2 Classify each number in ALL possible ways.

5) -7

A) integer only
B) integer, rational, real and complex
C) whole, integer, rational, real and complex
D) irrational and real

6) .333...

A) whole number, integer, rational, and real
B) rational only
C) irrational, real and complex
D) rational, real and complex

7) 5,789,231

A) integer, rational, and real
B) rational, and real
C) whole, integer, rational, real and complex
D) natural, whole, integer, rational, real and complex

8) 5i+7

A) complex
B) imaginary
C) complex and real
D) complex and imaginary

Simplify the following.

9) $\sqrt{-144}$

10) $\sqrt{-64}$

11) $\sqrt{-60}$

12) $\sqrt{-80}$

1.3 Simplify. Your answer should contain only positive exponents.

13) $\left(m^4\right)^5 \cdot m^3 \cdot m^2 n^{-5}$

14) $a^3 b^{-4} \cdot \left(a^5 b^2\right)^4$

15) $\left(-x^2 y^2\right)^3 \cdot x^2$

16) $x^{-1} y^2 \cdot \left(-x^2 y^4\right)^{-2}$

Simplify. Your answer should contain only positive exponents.

17) $\dfrac{2yx^4}{3x^3 \cdot yx^2}$

18) $\dfrac{4v^4}{4u^{-3} v^2 \cdot 2u^{-4}}$

1.4 Write each expression in exponential form.

19) $\left(\sqrt[4]{v}\right)^3$

20) $\left(\sqrt[5]{3b}\right)^2$

Write each expression in radical form.

21) $m^{\frac{3}{4}}$

22) $(6r)^{\frac{1}{2}}$

1.5 Simplify.

23) $\left(x^2\right)^{\frac{3}{2}} \cdot x$

24) $x^{\frac{5}{3}} \cdot \left(x^0\right)^2$

Simplify.

25) $\left(k^{\frac{1}{2}} \cdot k\right)^{\frac{2}{3}}$

26) $\left(x^{\frac{4}{3}}\right)^{\frac{2}{3}} \cdot x$

Answers to Review

1) 3
2) -84
3) -8
4) -3
5) B
6) D
7) D
8) A
9)
10)
11)
12)
13) $\frac{m^{25}}{n^5}$
14) $a^{23}b^4$
15) $-x^8y^6$
16) $\frac{1}{x^5y^6}$
17) $\frac{2}{3x}$
18) $\frac{u^7v^2}{2}$
19) $v^{\frac{3}{4}}$
20) $(3b)^{\frac{2}{5}}$
21) $\left(\sqrt[4]{m}\right)^3$
22) $\sqrt{6r}$
23) x^4
24) $x^{\frac{5}{3}}$
25) k
26) $x^{\frac{17}{9}}$