Unit 1 Mixed Review

Subsets, Exponents, and Radical ↔ Rational Exponents

For each of the following answer:

a) Tell what subset best describes the given number.

b) What other subsets of the number system does the number fall into?

1. The number is 0

2. The number is -3

3. The number is -1.2567825676…

Apply the properties of exponents and simplify each of the following expressions.

4. $\left(\frac{u}{u^2v^2\cdot 2uv}\right)^{-3}$	5. $\frac{2x^3y^3\cdot 2y}{(2x^3)^0}$
6. $\left(\frac{p^4}{2rq^0\cdot 2q^{-4}r^2}\right)^{-2}$	7. $\frac{x^3z^2\cdot 2x^{-1}y^{-2}z^{-3}}{(2zx^4)^4}$

Change the Radical Expressions to Rational Exponent Expressions.

8. $\left(\sqrt{7b}\right)^5$	9. $\sqrt{7n}$
10. $\frac{1}{\left(\sqrt[3]{5x^2}\right)^2}$	11. $\left(\sqrt[4]{x}\right)^3$
12. $\frac{1}{\left(\sqrt{2xy}\right)^5}$	13. $\left(\sqrt[3]{4x^7}\right)^4$

Change the Rational Exponent Expressions to Radical Expressions.

14. $(5x)^{\frac{5}{2}}$	15. $(10a)^{\frac{-2}{3}}$
16. $(7m)^{\frac{2}{3}}$	17. $(n)^{-\frac{3}{2}}$
18. $(3k)^{-\frac{5}{4}}$	19. $(8x)^{\frac{9}{2}}$