Test chapter 5 Math with Applications

Perform the indicated operations without a calculator.

1) $\frac{1}{5}+\frac{2}{3}$

2) $\frac{6}{5}-\frac{3}{7}$

3) $\frac{1}{5}\cdot\frac{2}{3}$

4) $\frac{1}{5}\div\frac{2}{3}$

Simplify.

5) $5-(-2)$

6) $-4-(2)(3)$

7) $3\cdot5-6\,(5-3)^2$

8) $6\div3\cdot12\div3\cdot7$

9) $(-3)^2$

10) $5-2(3-7)^2$

Simplify using the rules of exponents and then simplify.

11) $5^3 \cdot 5^{-2}$

12) $(2^3 \cdot 5^4)^3$

13) $(-2)^0$

14) -2^0

15) $\left(\frac{3}{7}\right)^3$

16) $\left(\frac{2}{3}\right)^{-3}$

Classify each number by the subsets of the real numbers to which it belongs.

17) -2

18) $-\sqrt{2}$

19) 1.523

Identify the property demonstrated by each equation.

20) $(3 + 4) + 8 = 8 + (3 + 4)$

21) $5(x + y) = 5x + 5y$

Simplify.

22) $\sqrt{98}$

23) $\frac{\sqrt{45}}{\sqrt{5}}$

24) $3\sqrt{5} - \sqrt{80}$

25) $\sqrt{7} \cdot \sqrt{35}$

26) $\frac{8}{\sqrt{3}}$

27) $\sqrt{180}$

Write the following in scientific notation.

28) 34,500,000

29) .0000765

30) 323×10^{5}

31) 0.089×10^{4}

Write the following in decimal notation.

32) 4.56×10^{7}

33) 3.24×10^{-5}

Find the 9^{th} term of the arithmetic sequence given the first term and the common difference.

34) $a_1 = 3, d = 7$

35) $a_1 = -3, d = 5$