

Decimals

1. Round to the accuracy indicated

a) 1345 (hundreds)

$$= 1300$$

b) 0.233 (tenth)

$$= 0.2$$

2. Solve:

a) $5.33 + 2.67 = 8.00$

b) $5.78 - 2.8 = 2.98$

$$\begin{array}{r} 5.78 \\ - 2.8 \\ \hline 2.98 \end{array}$$

Fractions

3. Solve, Express answers in lowest terms

a) $\frac{1}{3} + \frac{3}{4} = \frac{1 \times 4}{3 \times 4} + \frac{3 \times 3}{4 \times 3}$
 $= \frac{4}{12} + \frac{9}{12}$
 $= \frac{13}{12} = 1\frac{1}{12}$

b) $2\frac{1}{5} - 1\frac{2}{15} = \frac{11}{5} - \frac{17}{15}$
 $= \frac{-6}{5}$
 $= -1\frac{1}{5}$

c) $\frac{1}{3} \times \frac{3}{4} = \frac{1}{4}$

d) $\frac{3}{5} \div 1\frac{2}{5} = \frac{3}{5} \div \frac{7}{5}$
 $= \frac{3}{5} \times \frac{5}{7}$
 $= \frac{3}{7}$

Percent

4. Write each percentage as a fraction in lowest terms:

a) $49\% = \frac{49}{100}$ simplest

b) $84\% = \frac{84 \div 4}{100 \div 4} = \frac{21}{25}$

5. Write each fraction as a percent

a) $\frac{7 \times 2}{50 \times 2} = \frac{14}{100} = 14\%$

b) $\frac{5}{8} = (5 \div 8) \times 100\%$
 $= 62.5\%$

6. Calculate the following correct to one decimal place

a) 36% of 75
 $= \frac{36}{100} \times \frac{75}{1} = 27$

b) 120% of 90
 $= 1.20 \times 90$
 $= 108$

Factors and Exponents

7. Write in expanded form:

a) $5^4 = 5 \times 5 \times 5 \times 5$

b) $(4x)^3 = 4x \times 4x \times 4x$

8. Evaluate:

a) $2^3 + 3^2$

$= 8 + 9 = 17$

b) $2^3 \times 2^2 = 8 \times 4$

$= 32$

Order of Operations

9. Evaluate:

a) $4(-2) - (-8 + 4)$

$= -8 - (-4)$

$= -8 + 4$

$= -4$

b) $3(-2 + 4)^3 - 2(-4 + 1)^2$

$= 3(2)^3 - 2(-3)^2$

$= 3(8) - 2(9)$

$= 24 - 18$

$= 6$

Solving Equations

10. Solve for the unknown value and provide a check

a) $7x - 11 = 42$

$\frac{7x}{7} = \frac{53}{7}$

$x = \frac{53}{7}$

$x = 7\frac{4}{7}$

b) $\frac{3}{2}y = -6$

$\frac{2}{3} \left(\frac{3}{2}y \right) = (-6) \left(\frac{2}{3} \right)$

$y = -\frac{12}{3}$

$y = -4$

Pythagorean Theorem

11. a. State the Pythagorean property (or Pythagorean theorem):

$a^2 + b^2 = c^2$

b. Use the Pythagorean property to solve the length of c:



$5^2 + c^2 = 8^2$

$25 + c^2 = 64$

$c^2 = 64 - 25$

$c^2 = 39$

$c = \sqrt{39}$
 $c \approx 6.24$

Substitution

12. Evaluate each expression if $x = -3$ and $y = 2$

a. $3x^2 - y$

$= 3(-3)^2 - (2)$

$= 3(9) - 2$

$= 27 - 2$

$= 25$

b. $2(-x + 2y)^2$

$= 2(-(-3) + 2(2))^2$

$= 2(3 + 4)^2$

$= 2(7)^2$

$= 2(49)$

$= 98$