Review of Essential Skills and Knowledge – Part I

Number Sense and Numeracy: Decimals

Example 1

Round to the nearest ten.

$632 \rightarrow 630$
$635 \rightarrow 640$
$638 \rightarrow 640$

Example 2

Round to the nearest tenth.

$6.32 \rightarrow 6.3$
$6.35 \rightarrow 6.4$
$6.39 \rightarrow 6.4$

Example 3

Add. Round to the nearest tenth.

$$\begin{array}{r} 6.37 \\ +\ 12.21 \\ \hline 18.58 \end{array}$$

The answer, to the nearest tenth, is 18.6.

Practise

1. Round to the accuracy indicated.

(a) 263 (tens)
(b) 269 (tens)
(c) 1338 (hundreds)
(d) 1358 (hundreds)
(e) 19 255 (thousands)
(f) 19 651 (thousands)

2. Round to the number of decimal places shown in brackets.

(a) 1.37 (1)
(b) 1.33 (1)
(c) 1.35 (1)
(d) 0.236 (2)
(e) 0.233 (2)
(f) 1.236 (1)
(g) 7.276 (1)
(h) 2.393 (2)

3. Add. Round your answers to one decimal place.

(a) $\begin{array}{r} 0.41 \\ 1.68 \\ +\ 7.37 \\ \hline \end{array}$
(b) $\begin{array}{r} 71.07 \\ 16.47 \\ +\ 21.87 \\ \hline \end{array}$
(c) $4.9 + 1.09 + 4.069$
(d) $3.7 + 7.48 + 6.96$
(e) $14.08 + 2.3 + 4.65$

4. Subtract. Round your answers to the nearest tenth.

(a) $\begin{array}{r} 17.38 \\ -\ 5.46 \\ \hline \end{array}$
(b) $\begin{array}{r} 17.38 \\ -\ 12.49 \\ \hline \end{array}$
(c) $74.78 - 38.8$
(d) $89.8 - 18.98$

5. Multiply. Round your answers to the nearest tenth.

(a) $\begin{array}{r} 17.4 \\ \times\ 6.9 \\ \hline \end{array}$
(b) $\begin{array}{r} 10.5 \\ \times\ 16.3 \\ \hline \end{array}$
(c) $\begin{array}{r} 9.73 \\ \times\ 6.4 \\ \hline \end{array}$
(d) 8.06×8.7
(e) 1.08×70.9

6. Estimate. Then calculate with a calculator.

(a) $\frac{3.75}{25}$
(b) $\frac{118.8}{72}$
(c) $\frac{21.984}{3.2}$
(d) $0.648 \div 1.8$
(e) $1.764 \div 0.35$
(f) $0.264 \div 0.48$

7. Copy and complete the chart. Multiply the top row by the numbers in the left-hand column.

×	1.0317	1.043	8.07	0.18
10				
10^2		104.3		
0.1				

8. Copy and complete the chart. Divide the top row by the numbers in the left-hand column.

÷	134.1	71.43	8.31	0.45
10				
10^2		0.7143		
0.1				

Number Sense and Numeracy: Fractions

Example 1

Add: $\frac{7}{10} + \frac{2}{15}$

Solution

$$\frac{7}{10} + \frac{2}{15} = \frac{21}{30} + \frac{4}{30}$$
$$= \frac{25}{30}$$ Find a common denominator.
$$= \frac{5}{6}$$ Express in lowest terms.

Example 2

Subtract: $2\frac{1}{4} - \frac{1}{2}$

Solution

$$2\frac{1}{4} - \frac{1}{2} = 2\frac{1}{4} - \frac{2}{4}$$
$$= 1\frac{5}{4} - \frac{2}{4}$$
$$= 1\frac{3}{4}$$ Regroup.

Example 3

Multiply: $\frac{3}{5} \times 1\frac{1}{9}$

Solution

$$\frac{3}{5} \times 1\frac{1}{9} = \frac{3}{5} \times \frac{10}{9}$$
$$= \frac{\overset{1}{\cancel{3}}}{\underset{1}{\cancel{5}}} \times \frac{\cancel{10}^{2}}{\cancel{9}_{3}}$$
$$= \frac{2}{3}$$ Express in lowest terms. Then multiply.

Example 4

Dvide $1\frac{2}{3} \div \frac{3}{10}$

Solution

$$1\frac{2}{3} \div \frac{3}{10} = \frac{5}{3} \div \frac{3}{10}$$
$$= \frac{5}{3} \times \frac{10}{3}$$
$$= \frac{50}{9}$$ Multiply by the reciprocal.
$$= 5\frac{5}{9}$$

Practise

1. Write the missing information to form equivalent fractions.

(a) $\frac{1}{3} = \frac{\blacksquare}{18}$
(b) $\frac{\blacksquare}{36} = \frac{1}{9}$
(c) $\frac{\blacksquare}{28} = \frac{4}{7}$
(d) $\frac{1}{5} = \frac{7}{\blacksquare}$
(e) $\frac{3}{8} = \frac{15}{\blacksquare}$
(f) $\frac{18}{\blacksquare} = \frac{2}{9}$
(g) $\frac{1}{\blacksquare} = \frac{9}{36}$
(h) $\frac{3}{\blacksquare} = \frac{15}{55}$
(i) $\frac{5}{35} = \frac{\blacksquare}{7}$

2. Add.

(a) $\frac{1}{7} + \frac{3}{7}$
(b) $\frac{2}{9} + \frac{5}{9}$
(c) $\frac{3}{8} + \frac{1}{8}$
(d) $\frac{1}{3} + \frac{1}{9}$
(e) $\frac{1}{3} + \frac{1}{6}$
(f) $\frac{1}{3} + \frac{5}{12}$

3. Subtract.

(a) $\frac{5}{9} - \frac{1}{9}$
(b) $\frac{14}{15} - \frac{7}{15}$
(c) $\frac{7}{15} - \frac{2}{5}$
(d) $\frac{5}{6} - \frac{3}{8}$
(e) $\frac{3}{4} - \frac{1}{6}$
(f) $\frac{1}{3} - \frac{1}{6}$

4. Add.

(a) $1\frac{1}{6} + 2\frac{1}{6}$
(b) $2\frac{3}{10} + 1\frac{3}{10}$
(c) $3\frac{3}{4} + 1\frac{3}{4}$
(d) $1\frac{3}{4} + 2\frac{5}{12}$
(e) $2\frac{1}{6} + 1\frac{5}{6}$
(f) $4\frac{2}{5} + 3\frac{1}{5}$

5. Subtract.

(a) $3\frac{5}{9} - 1\frac{2}{9}$
(b) $4\frac{7}{16} - 2\frac{3}{16}$
(c) $3\frac{3}{10} - 1\frac{7}{10}$
(d) $2 - 1\frac{1}{4}$
(e) $5\frac{1}{11} - 4\frac{9}{11}$
(f) $2\frac{3}{7} - 1\frac{6}{7}$

6. Multiply.

(a) $\frac{1}{2} \times \frac{3}{5}$
(b) $\frac{3}{4} \times \frac{7}{10}$
(c) $\frac{3}{5} \times 15$
(d) $\frac{2}{3} \times \frac{9}{11}$
(e) $\frac{3}{4} \times \frac{8}{15}$
(f) $2\frac{1}{3} \times \frac{3}{14}$

7. Divide.

(a) $\frac{3}{7} \div \frac{4}{5}$
(b) $\frac{2}{11} \div \frac{3}{5}$
(c) $\frac{3}{4} \div \frac{7}{8}$
(d) $\frac{5}{8} \div \frac{13}{16}$
(e) $2 \div \frac{2}{3}$
(f) $4 \div \frac{8}{9}$
(g) $\frac{3}{4} \div 9$
(h) $\frac{5}{7} \div 10$

8. Arrange the fractions in order from least to greatest in value.

(a) $\frac{3}{4}, \frac{5}{8}, \frac{1}{2}$
(b) $\frac{7}{8}, \frac{3}{4}, \frac{13}{16}$
(c) $\frac{3}{5}, \frac{9}{10}, \frac{3}{4}$
(d) $\frac{5}{6}, \frac{8}{9}, \frac{2}{3}$

Answers

Decimals (pg. 13 Handout)

① a) 260
b) 270.
c) 1300
d) 1400.
e) 190000.
f) 200000

⑤ a) 120.06 b) 171.15 c) 62.272
d) 70.122 e) 76.572.

⑥ a) 0.15 b) 1.7
c) 6.87 d) 0.36
e) 5.04 f) 0.55

② a) 1.4 b) 1.3
c) 1.4 d) 0.24
e) 0.23 f) 1.2
g) 7.3 h) 2.39.

③ a) 9.46 b) 109.41.
c) 10.059 d) 18.14.
e) 21.03.

④ a) 11.92 b) 4.89
c) 35.98 d) 70.82

Fractions (pg. 14)

① a) 6 b) 4 c) 16.
d) 35 e) 40. f) 81
g) 4 h) 11 i) 1

② a) $\frac{4}{7}$ b) $\frac{7}{9}$ c) $\frac{1}{2}$.
d) $\frac{4}{9}$ e) $\frac{1}{2}$ f) $\frac{9}{12} = \frac{3}{4}$.

③ a) $\frac{4}{9}$ b) $\frac{7}{15}$ c) $\frac{1}{15}$.
d) $\frac{11}{24}$. e) $\frac{7}{12}$ f) $\frac{1}{6}$.

④ a) $3\frac{1}{3}$ b) $3\frac{3}{5}$. c) $5\frac{1}{2}$.
d) $4\frac{1}{6}$ e) 4. f) $7\frac{3}{5}$.

⑤ a) $2\frac{1}{3}$ b) $2\frac{1}{4}$.
c) $1\frac{3}{5}$ d) $\frac{3}{4}$
e) $\frac{3}{11}$. f) 1.

⑥ a) $\frac{3}{10}$ b) $\frac{21}{40}$.
c) 9 d) $\frac{6}{11} = \frac{18}{33}$
e) $\frac{6}{15} = \frac{2}{5}$ f) $\frac{1}{2}$.

⑦ a) $\frac{15}{28}$ b) $\frac{10}{33}$.
c) $\frac{6}{7}$ d) $\frac{10}{13}$.
e) 3 f) $\frac{9}{2} = 4\frac{1}{2}$
g) $\frac{1}{12}$ h) $\frac{1}{14}$.

⑧ a) $\frac{1}{2}, \frac{5}{8}, \frac{3}{4}$. b) $\frac{3}{4}, \frac{13}{16}, \frac{7}{8}$
c) $\frac{3}{5}, \frac{3}{4}, \frac{9}{10}$ d) $\frac{2}{3}, \frac{5}{6}, \frac{8}{9}$.

Number Sense and Numeracy: Percent

There are three types of percent problems.

Example 1

Find 20% of 65.

Solution

$$20\% \text{ of } 65 = 0.20 \times 65$$
$$= 13$$

Thus, 20% of 65 is 13.

Example 2

What percent is 38 of 95?

Solution

$$\frac{n}{100} = \frac{38}{95} \quad \left[\frac{38}{95} = \frac{2}{5} = \frac{40}{100}\right]$$
$$\frac{n}{100} = \frac{40}{100}$$
$$n = 40$$

Thus, 38 is 40% of 95.

Example 3

60% of a number is 15.
What is the number?

Solution

60% of a number is 15.
1% of a number is $\frac{15}{60}$.
100% of a number is $\frac{15}{60} \times 100$.
Thus, the number is 25.

Practise

1. Write each percent as a fraction in lowest terms.

(a) 49% (b) 75% (c) 1%
(d) $\frac{1}{2}$% (e) $33\frac{1}{3}$% (f) $7\frac{1}{2}$%

2. Write each fraction as a percent.

(a) $\frac{73}{100}$ (b) $\frac{3}{10}$ (c) $\frac{7}{50}$
(d) $\frac{1}{4}$ (e) $\frac{5}{8}$ (f) 1

3. Write each decimal as a percent.

(a) 0.43 (b) 0.92
(c) 0.225 (d) 1.07
(e) 3.51 (f) 0.005

4. Calculate each of the following to one decimal place.

(a) 15% of 75 (b) 75% of 68
(c) 150% of 60 (d) $\frac{1}{2}$% of 244
(e) $1\frac{1}{2}$% of 76 (f) $2\frac{3}{4}$% of 748

5. What percent is:

(a) 73 of 100? (b) 87 of 100?
(c) 19 of 50? (d) 13 of 25?
(e) 13 of 10? (f) 63 of 50?

6. Find the number:

(a) three to the exponent 2
(b) four to the exponent 3
(c) two to the exponent 5
(d) five to the exponent 1
(e) six to the exponent 0
(f) two to the exponent 16

7. Find the interest on $1500 for one year at the following rates of interest.

(a) 12% (b) 8.5%
(c) $\frac{1}{2}$% (d) $\frac{1}{4}$%
(e) 3% (f) $6\frac{1}{4}$%

8. Write the rate of discount to one decimal place on a purchase of $150 if the discount is:

(a) $15 (b) $30 (c) $22.50
(d) $50 (e) $67.50 (f) $18.75

Example 1

$2^4 = 2 \times 2 \times 2 \times 2$
$= 16$

expanded form

This is a power of 2.

2 is called the base.
4 is called the exponent.

Example 2

Calculate $2^3 \times 2^2$.

Solution

$2^3 \times 2^2 = 2 \times 2 \times 2 \times 2 \times 2$
$= 32$

like bases

Example 3

Evaluate $2^2 \times 3^2$.

Solution

$2^2 \times 3^2 = 2 \times 2 \times 3 \times 3$
$= 36$

unlike bases

Practise

Complete all highlighted questions.

1. Write the value of each.

(a) 2^2 (b) 2^3 (c) 2^4
(d) 3^2 (e) 3^3 (f) 3^4
(g) 4^2 (h) 4^3 (i) 5^3

2. Simplify.

(a) 3×2^2 (b) 3×2^3
(c) 2×4^2 (d) 2×4^3
(e) $2^2 \times 3^2$ (f) $2^2 \times 3^3$
(g) $3^2 \times 2^3$ (h) $2^2 \times 4^2$
(i) $2^3 \times 4^2$ (j) $5^2 \times 3^2$

3. For each power, what is the base? the exponent?

(a) 2^3 (b) 3^2 (c) 2^4
(d) 3^4 (e) 5^2

4. Write each expression as a power.

(a) $3 \times 3 \times 3 \times 3 \times 3$
(b) $2 \times 2 \times 2 \times 2$
(c) $5 \times 5 \times 5$
(d) $4 \times 4 \times 4 \times 4 \times 4 \times 4$

5. Write in expanded form.

(a) 5^2 (b) 2^5 (c) 6^4
(d) x^3 (e) y^4 (f) $(2m)^3$
(g) $(3n)^2$ (h) 4^3 (i) 3^4

6. Evaluate:

(a) the third power of 2
(b) the fourth power of 3
(c) the second power of 5
(d) the fifth power of 1
(e) the sixth power of 0
(f) the second power of 16

7. Write each number as a power of 10.

(a) 100 (b) 1000
(c) 100 000 (d) 1 000 000
(e) 10 (f) 10 000 000

8. Write as a power of 2.

(a) 4 (b) 16
(c) 64 (d) 256

9. Evaluate.

(a) $7^2 + 2^2$ (b) $4^3 - 2^5$
(c) 3×2^3 (d) $3^2 \times 2^2$

10. Evaluate for $x = 2$.

(a) $2x$ (b) x^2 (c) x^3
(d) $3x^2$ (e) $2x^2 + 3$ (f) $x^3 - x^2$

11. Express each number as a product of two powers. (For instance, $36 = 2^2 \times 3^2$.)

(a) 100 (b) 12 (c) 108
(d) 2500 (e) 18 (f) 72

Answers

Percent (pg 16)

① a) $\frac{49}{100}$ b) $\frac{3}{4}$ c) $\frac{1}{100}$
d) $\frac{1}{200}$ e) $\frac{1}{3}$ f) $\frac{15}{200} = \frac{3}{40}$.

② a) 73% b) 30% c) 14%
d) 25% e) 62.5% f) 100%.

③ a) 43% b) 92% c) 22.5%.
d) 107% e) 351% f) $\frac{1}{2}$%.

④ a) 11.25 b) 51
c) 90 d) 1.22
e) 1.14 f) 20.57

⑤ a) 73% b) 87%
c) 38% d) 32%
e) 130% f) 126%.

⑥ a) 180 b) 127.50
c) 7.5 d) 3.75
e) 45. f) 93.75

⑧ a) 10% b) 20% c) 15%
d) $33\frac{1}{3}$% e) 45% f) 12.5%.

Exponent Answers (pg 17)

① a) 4 b) 8 c) 16
d) 9 e) 27 f) 81
g) 16 h) 64 i) 125

② a) 12
b) 32
c) 36
d) 72
e) 128

③ a) 8 → base: 2 exponent: 3.
d) 81 → base: 3 exponent: 4.

④ a) 3^5
b) 2^4
c) 5^3
d) 4^6

⑤ a) 5×5
b) $2 \times 2 \times 2 \times 2 \times 2$
c) $y \times y \times y \times y$
f) $(2m) \times (2m) \times (2m)$

⑥ a) $2^3 = 8$
d) $1^5 = 1$
f) $16^2 = 256$.

⑦ a) 10^2
c) 10^5
e) 10^1

⑧ a) 2^2
c) 2^6

⑨ a) $49 + 4 = 53$
c) $3 \times 8 = 24$.

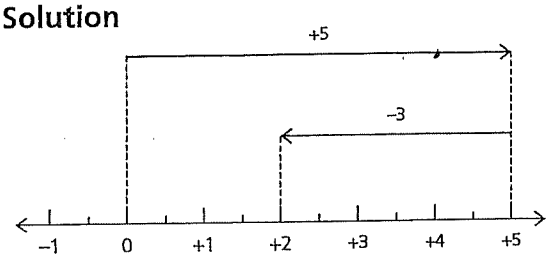
⑩ a) 4
d) 12
f) 4

Number Sense and Numeracy: Integers—Addition and Subtraction

A number line can be used to show how to add integers.

Example 1
Find $(+5) + (-3)$.

Solution



$(+5) + (-3) = 2$ —— The positive sign is often not used.

To subtract an integer you add its opposite.

Example 2
Subtract: (a) $5 - (-2)$ (b) $-8 - (+3)$

Solution

(a) $5 - (-2) = 5 + (+2)$
$= 7$

(b) $-8 - (+3) = -8 + (-3)$
$= -11$

To subtract an integer, you add its opposite.

Practise

1. Find each sum.

(a) $-3 + (-2)$ (b) $2 + (-3)$
(c) $-8 + (+8)$ (d) $-6 + (+4)$
(e) $-4 + (-5)$ (f) $2 + (-6)$

2. Add.

(a) $\begin{array}{r} 5 \\ -7 \\ \hline \end{array}$ (b) $\begin{array}{r} -3 \\ 4 \\ \hline \end{array}$ (c) $\begin{array}{r} -9 \\ 2 \\ \hline \end{array}$

(d) $\begin{array}{r} -4 \\ -6 \\ \hline \end{array}$ (e) $\begin{array}{r} 7 \\ -7 \\ \hline \end{array}$ (f) $\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$

(g) $\begin{array}{r} -8 \\ -4 \\ \hline \end{array}$ (h) $\begin{array}{r} -4 \\ 3 \\ \hline \end{array}$ (i) $\begin{array}{r} -5 \\ -5 \\ \hline \end{array}$

3. Find each difference.

(a) $4 - (-3)$ (b) $-5 - (-2)$
(c) $5 - (-3)$ (d) $-4 - (-7)$
(e) $6 - (-6)$ (f) $4 - (4)$
(g) $-7 - (-3)$ (h) $-7 - (-9)$

4. Subtract.

(a) $\begin{array}{r} -4 \\ -2 \\ \hline \end{array}$ (b) $\begin{array}{r} 5 \\ -3 \\ \hline \end{array}$ (c) $\begin{array}{r} -7 \\ -3 \\ \hline \end{array}$

(d) $\begin{array}{r} -5 \\ 5 \\ \hline \end{array}$ (e) $\begin{array}{r} -7 \\ -8 \\ \hline \end{array}$ (f) $\begin{array}{r} 7 \\ -3 \\ \hline \end{array}$

(g) $\begin{array}{r} -7 \\ -3 \\ \hline \end{array}$ (h) $\begin{array}{r} -7 \\ 3 \\ \hline \end{array}$

5. Simplify.

(a) $3 - (-4)$ (b) $-7 + 2$
(c) $5 - 3$ (d) $3 - 5$
(e) $-4 - (-4)$ (f) $-4 - 4$
(g) $5 - (-3) + 4$ (h) $-4 - (-3) + 5$
(i) $-6 - 4 - 3$ (j) $-4 + 7 - 5$

6. Which choice would make each statement true: >, <, or =?

(a) $-3 - 4 - 5 + 3$ ■ $-4 - 3 - 1 - (-2)$
(b) $4 - 7 + 6 - 8$ ■ $-3 - 5 - (-7) - 4$
(c) $9 - 6 - (-4) - 5$ ■ $5 - 13 - 7 - (-8)$
(d) $5 - 13 + 7 - 2$ ■ $4 - 5 - (-3) - 5$
(e) $7 - 3 - (-15) - 11$ ■ $-7 - 3 - (-11) - 1$

7. In each row, which expression has the greatest value? the least value?

(a) $-5 - 3 + 4$, $4 - 3 - (-4)$, $5 - (-3) - 10$
(b) $4 - 3 - 1$, $-5 - (-2) + 4$, $-14 + 5 + 6$
(c) $9 - (-2) - 7$, $5 - (-7) + (-9)$, $-5 - 3 + 6$
(d) $-6 + 4 + 3 - 2$, $4 - (-3) - 7$, $5 - (-2) -$
(e) $-5 - 2 + 4$, $3 - 12 + 2$, $-7 - (-2) + 1$

Number Sense and Numeracy: Integers—Multiplication and Division

Use a pattern to remember how to multiply or divide integers.
The + and − signs are shown here to remember the rules. In the examples and practise questions, +5 is written as 5.

$(-5)(-2) = +10$ $\quad (-10) \div (-2) = +5$ $\quad (+5)(-2) = -10$ $\quad (-10) \div (+2) = -5$

$(+5)(+2) = +10$ $\quad (+10) \div (+2) = +5$ $\quad (-5)(+2) = -10$ $\quad (+10) \div (-2) = -5$

same signs, positive integer; different signs, negative integer

Example 1

Find $3(-2)$.

Solution

$3(-2) = -6$

Example 2

Calculate $(-2)^3$.

Solution

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

Example 3

Find $(-18) \div (-3)$.

Solution

$(-18) \div (-3) = 6$

Practise

1. Find each product.

(a) $(-3)(2)$ **(b)** $(-4)(-9)$
(c) $(4)(-3)$ **(d)** $(-7)(-3)$
(e) $(5)(4)$ **(f)** $(-2)(7)$

2. Simplify.

(a) $-2(-7)$ **(b)** $-3(8)$ **(c)** $5(-7)$
(d) $-5(-7)$ **(e)** $-4(-9)$ **(f)** $-4(9)$

3. Find each quotient.

(a) $-18 \div (-6)$ **(b)** $-24 \div 6$
(c) $51 \div (-17)$ **(d)** $-42 \div (-14)$
(e) $-18 \div (18)$ **(f)** $-24 \div (-6)$
(g) $60 \div (-12)$ **(h)** $-30 \div (-15)$

4. Simplify.

(a) $\frac{-50}{5}$ **(b)** $\frac{-15}{-5}$ **(c)** $\frac{30}{-6}$
(d) $\frac{48}{-6}$ **(e)** $\frac{16}{-16}$ **(f)** $\frac{-16}{-8}$
(g) $\frac{18}{-9}$ **(h)** $\frac{-81}{27}$ **(i)** $\frac{-18}{-9}$

5. Evaluate.

(a) $(-4)^2$ **(b)** $(-2)^4$ **(c)** $(-3)^4$
(d) $(-5)^2$ **(e)** -5^2 **(f)** 4^3
(g) -4^3 **(h)** $(-2)^5$ **(i)** $(-3)^2$

6. Simplify.

Example:

$-3(-2)^4 = -3(16)$ — Calculate powers first.
$= -48$

(a) $-2(-3)^2$ **(b)** $4(-2)^3$
(c) $5(-3)^3$ **(d)** $(-3)^2(-2)^2$
(e) $-3^2(-2)^3$ **(f)** $(5)^2(-2)^2$
(g) $-5^2(-3)$ **(h)** $(-5)^2(-3)$

7. Calculate.

(a) $(-6)^2 \div (-3)$ **(b)** $-6^3 \div (-3)$
(c) $-3^4 \div (-3)^2$ **(d)** $(-4)^3 \div (-2)^3$
(e) $6^2 \div (-3)^2$ **(f)** $-4^2 \div (-2)^3$
(g) $2(-4)^2 \div (-8)$ **(h)** $-8 \div [(-2)(4)]$
(i) $-8(-3) \div (-2)^2$

8. Calculate.

(a) $(5^2 \div 5) \times (7^2 \div 7)$
(b) $(4^3 \div 2^2) \div (2 \times 2^2)$
(c) $(-4^3 \times 3) \times (3^2 \div 3)$

Integer Worksheets Answers

Integers - Addition and Subtraction (pg. 18)

① a) -5 b) -1
c) 0 d) -2
e) -9 f) -4

③ a) 7 b) -3
c) 8 d) 3
e) 12 f) 0
g) -4 h) 2

⑤ a) 7 b) -5
c) 2 d) -2
e) 0 f) -8
g) 12 h) 4
i) -13 j) -2

⑥ a) $-9 < -6$ Notice -6 is greater than -9!

b) $-5 = -5$

c) $2 > -7$

Integers - Multiplication and Division (pg. 19)

① a) -6
c) -12
e) 20

② a) 14 c) -35 e) 36

③ a) 3
c) -3
e) -1
g) -5

④ a) -10 c) -5
e) -1
g) -2 i) 2

⑤ a) 16 c) $(-3)(-3)(-3)(-3) = 81$
e) -25
g) -64 i) 9

⑥ a) $-2(9) = -18$
c) $5(-27) = -135$
e) $-9(-8) = 72$
g) $-25(-3) = 75$

⑦ a) $36 \div -3 = -12$
c) $-81 \div 9 = -9$
e) $36 \div +9 = +4$
g) $32 \div -8 = -4$
i) $24 \div 4 = 6$

⑧ a) $5 \times 7 = 35$
b) $(64 \div 4) \div (2 \times 4)$
$= 16 \div 8 = 2$
c) $(-64 \times 3) \times (9 \div 3)$
$= -192 \times 3$
$= -576$

Order of Operations Worksheet Answers

1) -77 7) -8
2) 21 8) 136
3) 21 9) -32
4) -7 10) -8
5) 4 11) -10
6) 77 12) 394

Date: _____ Name: _____

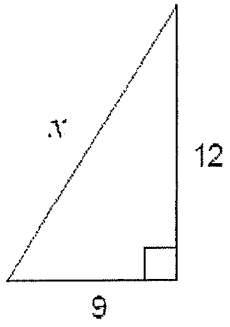
Pythagorean Theorem Practice

A) Calculate the measure of x in each.

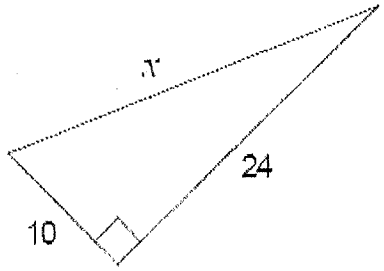
Where necessary, round you answer correct to one decimal place.

Complete on a separate piece of paper.

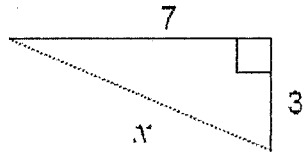
1.



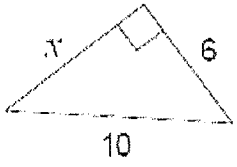
2.



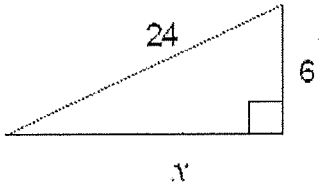
3.



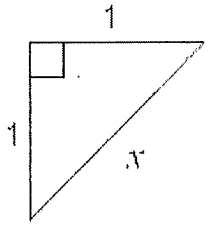
4.



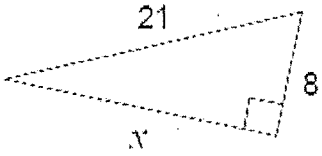
5.



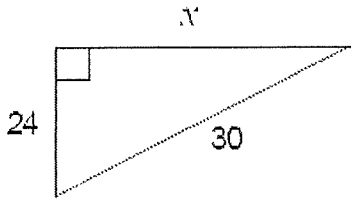
6.



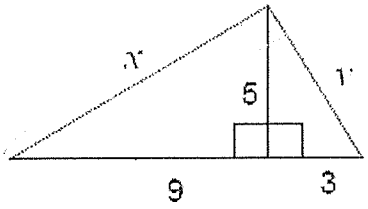
7.



8.



9.



B) A ladder is leaning against the side of a 10m house. If the base of the ladder is 3m away from the house, how tall is the ladder?

Draw a diagram and show all work.

Algebra Review Questions

MPM1D Name: _____ Date:_____

Solve for each of the following variables. If answers are not whole numbers, keep them as a fraction.

1) $-4s = -32$

2) $9 = v + 7$

3) $-7 = -7 + x$

4) $2x + 4 = 8$

5) $3x - 7 = 8$

6) $7x - 3 = -17$

7) $7 - 13x = 33$

8) $21 = 4v + 3v$

9) $7(1 + 2h) = 49$

10) $4x - 2 - 1 = -23$

11) $-6(8 + 3y) = -12$

12) $\frac{x}{7} = \frac{9}{21}$

13) $\frac{3x}{5} = \frac{4}{60}$

14) $7x = \frac{14}{9}$

Answers:

Pythagorean Theorem:

A) 1. x = 15
2. x = 26
3. x = 7.62
4. x = 8
5. x = 23.24
6. x = 1.41
7. ~~x = 12.92~~ x = 19.4
8. x = 18
9. x = 10.30
   y = 5.83

B) x = 10.44

Algebra Review Questions:

1) s = 8
2) v = 2
3) v = 0
4) x = 2
5) x = 5
6) x = -2
7) x = -2
8) v = 3
9) h = 3
10) x = -5
11) y = -2
12) x = 3
13) x = 1/9
14) x = 2/9