Math Fundamental: Unit 2 Pre-Test

1.) (1 pt each, 2 pts total) Write the shaded amount as a fraction.

a)

$\frac{5 \div 5}{10 \div 5} = \boxed{\frac{1}{2}}$

b)

2.) (2 pts each, 4 pts total) Solve each fraction as though it were a division problem. Write your answer as a mixed number.

a) $\frac{78}{8}$

$\frac{78}{8}$

$8\overline{)78}$ $\frac{9}{78}$
-72
$\boxed{6}$

Whole number | num den

$9\frac{6}{8} \quad \frac{6 \div 2}{8 \div 2} = \frac{3}{4}$

$\boxed{9\frac{3}{4}}$

b) $\frac{57}{9}$

(handwritten times table on left margin)
8
16 >8
3 24 >8
4 32 >8
5 40 >8
6 48 >8
7 56 >8
8 64 >8
9 72 >8
10 80

3.) (2 pts each, 4 pts total) Solve each problem. Make sure to write your answer as a fraction.

a) A doctor gave his patient liquid medicine and told him to drink 28 cups over the next 6 days. How much should the patient drink each day?

$\frac{28}{6} \rightarrow$ mixed number

$6\overline{)28}$ $\frac{4}{28}$
-24
4

$4\frac{4}{6} = \boxed{4\frac{2}{3}}$

b) Sam had collected 60 leaves to feed to his caterpillar collection. If he wanted to split the leaves equally amongst the 7 cages, how much should he put in each cage?

4.) (2 pts each, 4 pts total) Solve each problem. Write the answer as a mixed number fraction (if possible).

a) $\frac{9}{12} - \frac{1}{12}$ = $\frac{8 \div 4}{12 \div 4}$ = $\boxed{\frac{2}{3}}$

b) $\frac{3}{4} + \frac{2}{4}$

5.) (3 pts each, 6 pts total) Solve each problem. Write the answer as a mixed number fraction (if possible).

a) $\frac{8}{10} - \frac{2}{4}$

$\frac{32}{40} - \frac{20}{40}$ = $\frac{12 \div 4}{40 \div 4}$ = $\boxed{\frac{3}{10}}$

$\frac{8}{10}$ $\xrightarrow{\times 4}$ $\frac{32}{40}$ $\underset{\times 4}{}$

$\frac{2}{4}$ $\xrightarrow{*10}$ $\frac{20}{40}$ $\underset{*10}{}$

b) $\frac{3}{6} + \frac{3}{8}$

6.) (3 pts each, 6 pts total) Solve each problem.

a) $\frac{5}{1} \times \frac{1}{8}$ $\boxed{\frac{5}{8}}$

b) $\frac{1}{12} \times 4$

7.) (3 pts each, 6 pts total) Solve each problem. Answer as a mixed fraction.

a) $5 \times \frac{4}{6}$ $= \frac{20}{6}$ $\frac{\div 2}{\div 2}$ $= \boxed{\frac{10}{3}}$

b) $\frac{6}{10} \times 3$

8.) (3 pts each, 6 pts total) Solve each problem.

a) $\frac{2}{3} \times \frac{1}{2}$ $\frac{2}{6}$ $\frac{\div 2}{\div 2}$ $= \boxed{\frac{1}{3}}$

b) $\frac{9}{12} \times \frac{6}{8}$

9.) (3 pts each, 12 pts total) Solve each problem. Answer as an improper fraction (if necessary)

a) $\frac{6}{7} \times \frac{7}{10}$

$$\left\{ \frac{6}{7} * \frac{7}{10} \right\} \div 7 \quad \frac{6}{7} * \frac{1}{10} \div 2 \quad \frac{3}{1} * \frac{1}{5} = \boxed{\frac{3}{5}}$$

b) $\frac{9}{24} \times \frac{6}{90}$

c) $\frac{3}{2} \times 3\frac{4}{6}$

$$3\frac{4}{6} = \frac{(3*6)+4}{6} = \frac{18+4}{6} = \frac{22}{6}$$

$$\frac{3}{2} * \frac{22}{6} \div 3 \qquad \frac{1}{2} * \frac{22}{2} \div 2 \qquad \frac{1}{1} * \frac{11}{2} = \boxed{\frac{11}{2}}$$

d) $\frac{7}{9} \times \frac{15}{4}$

10.) (3 pts each, 6 pts total) Solve each problem. Write your answer as a mixed number (if possible).

a) $\frac{1}{2} \div 9$

$$\frac{1}{2} \div \frac{9}{1} \qquad \text{only flip the second}$$

$$\frac{1}{2} * \frac{1}{9} = \boxed{\frac{1}{18}}$$

b) $7 \div \frac{1}{5}$

11.) (3 pts each, 6 pts total) Write your answer as a mixed number (if possible).

a) $\frac{22}{8} \div \frac{11}{2}$ flip $\frac{22}{8} * \frac{2}{11}$

$\frac{22}{8} * \frac{2}{11} \overset{\div 2}{\cdots}$ $\frac{22}{4} * \frac{1}{11} \overset{\div 11}{\cdots}$ $\left(\frac{2}{4}\right)^{\div 2}_{\div 2} * \frac{1}{1}$ $\frac{1}{2} * \frac{1}{1} = \boxed{\frac{1}{2}}$

b) $8\frac{1}{2} \div \frac{34}{6}$

12.) (3 pts each, 6 pts total) Name each of the following shapes. Place a check beside each category of shape for which it qualifies.

a) Name of Shape: Parallelogram

This shape also fall under the category of:

☐ kite — no parallel lines
☑ parallelogram — 2 pairs of parallel sides
☑ quadrilateral
☐ rectangle — 4 equal angles
☐ rhombus — 4 equal sides
☐ square — 4 equal sides & angles
☐ trapezoid — 1 pair of parallel lines

parallel

equal ||
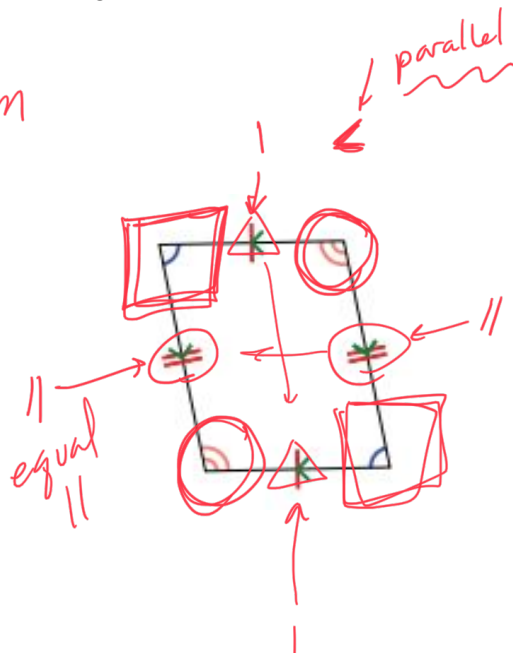
b) Name of Shape:
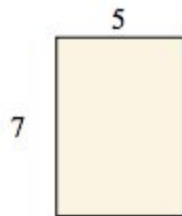
This shape also fall under the category of:

☐ kite
☐ parallelogram
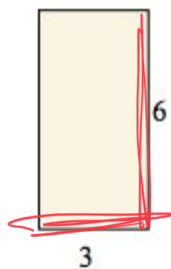☐ quadrilateral
☐ rectangle
☐ rhombus
☐ square
☐ trapezoid
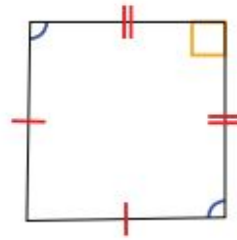
13.) (2 pts each, 4 pts total) Find the area (in cm) of the rectangles shown.
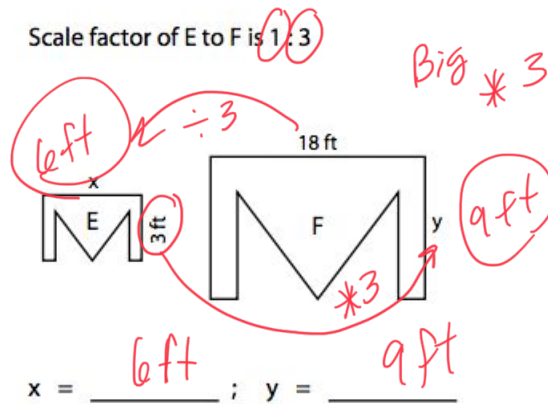
a)

5

7

$A = h * b$

$7 * 5 = \boxed{35 \, cm^2}$

b)

6

3

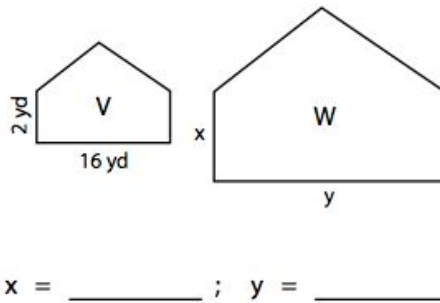14.) (3 pts each, 6 pts total) Find x and y.
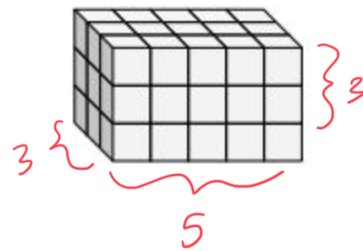
a)

Scale factor of E to F is 1 : 3

(handwritten: Big ✱ 3)

(handwritten: left) *(handwritten: ÷3)*

18 ft

E | 3 ft | F | y | *(handwritten: 9 ft)*

(handwritten: ✱3)

x = __6 ft__ ; y = __9 ft__

b)

Scale factor of W to V is 4 : 1

2 yd | V | 16 yd | x | W | y

x = _____ ; y = _____

15.) (2 pts each, 4 pts total) Find the length, width and height of the rectangular prism.
Then find the volume.

a) L = __5__

W = __3__

H = __3__

V = ____

(handwritten dimensions: 3, 3, 5)

(handwritten:)
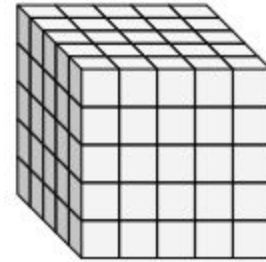$$V = L \ast W \ast H$$
$$5 \ast 3 \ast 3$$
$$15 \ast 3 \quad \boxed{45 \ cubes}$$
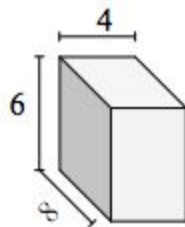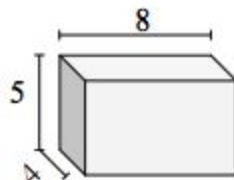
7

b) L = _____

W = _____

H = _____

V = _____

16.) (3 pts each, 6 pts total) Find the volume of each of the rectangular prisms. Measured in cm (not to scale).
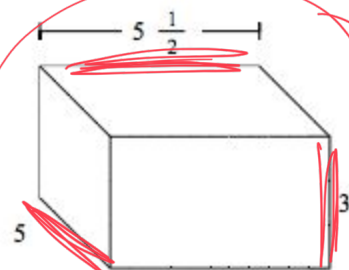
a)

$4 * 6 * 8$

$24 * 8 = \boxed{192 \text{ cm}^3}$

b)

17.) (3 pts each, 6 pts total) Find the volume of each of the rectangular prisms. Measured in cm (not to scale).
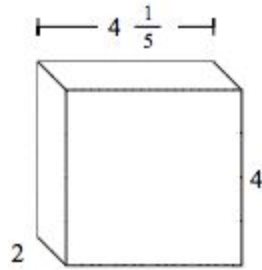
a)

$5\frac{1}{2} = \frac{(5*2)+1}{2} = \frac{11}{2}$
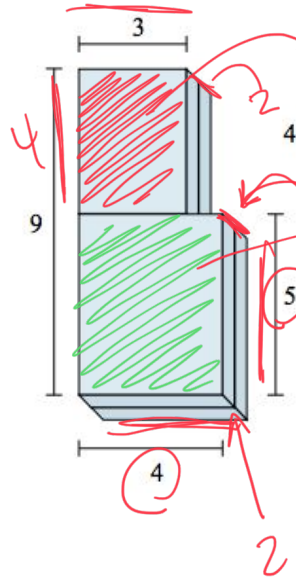
mixed number   improper fraction

$\frac{11}{2} * \frac{5}{1} * \frac{3}{1} = \boxed{\frac{165}{2} \text{ cm}^3}$

8

b)

$4\frac{1}{5}$

4

2

18.) (3 pts each, 6 pts total) Find the total volume of each figure shown. Measured in cm (not to scale). Please note: the floating number represents the width of the figure
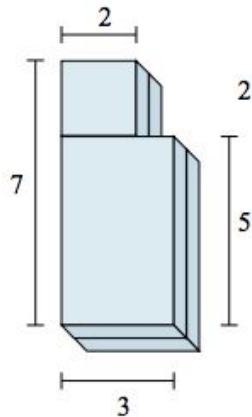
a)

3

4

2

4

9

5

4

2

$3*4*2 = 24 cm^3$

$5*4*2$
$20*2 = 40 cm^3$

$40 cm^3 + 24 cm^3$

$64 cm^3$

b)

2

2

7

5

3

HW
Pre-Test
Optional HW 19
Unit 2 Review
Unit 2 Test due Feb 22nd
Hw/Quiz 17 due Feb 15th
Hw/Quiz 18 due Feb 8th