**Geometry** (G-SRT.2)
**Unit 2: Proportions** (IC0)

Name: _____
Date: _____ Period: _____

1. Solve each proportion using cross products.

a) $\frac{3}{5} = \frac{x}{15}$

3(15) = 5x
45 = 5x
x = 9

x = 9

b) $\frac{1}{x} = \frac{6}{x+15}$

1(x + 15) = 6x
x + 15 = 6x
15 = 5x
x = 3

x = 3

c) $\frac{20-x}{x} = \frac{6}{4}$

4(20 – x) = 6x
80 – 4x = 6x
80 = 10x
x = 8

x = 8

d) $\frac{4}{12} = \frac{x+2}{2x+13}$

4(2x+13)=12(x+2)
8x+52=12x+24
28 = 4x
x = 7

x = 7

2. Solve the following problems. (Show work)

a) The ratio of seniors to juniors in the Chess Club is 2:3. If there are 24 juniors, how many seniors are in the club?

$\frac{2 \text{ Seniors}}{3 \text{ Juniors}} = \frac{x \text{ Seniors}}{24 \text{ Juniors}}$

2(24) = 3x
48 = 3x
x = 16 seniors

b) A 15 foot building casts a 9 foot shadow. How tall is the building that casts a 30 ft shadow at the same time?

$\frac{15' \text{ building}}{9' \text{ shadow}} = \frac{x \text{ building}}{30' \text{ shadow}}$

15(30) = 9x
450 = 9x
x = 50' building

3. What would be the best (most specific) name for the shape that has the following ratios for its SIDES.

a) 3:4:3 Isosceles Triangle

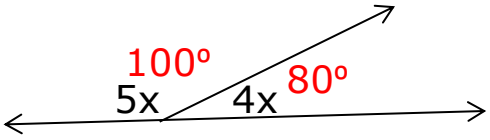
b) 4:5:4:5 ll-gram or rectangle

c) 3:3:5:5 Quadrilateral (kite)

d) $\sqrt{5}:\sqrt{5}:\sqrt{5}:\sqrt{5}$ Rhombus or square

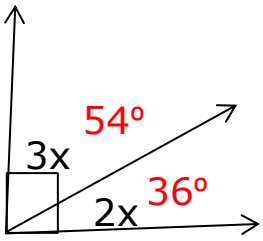
4. Solve the following problems. (Show work)

a) The ratio of two supplementary angles is 4:5. Find the measures of each angle.



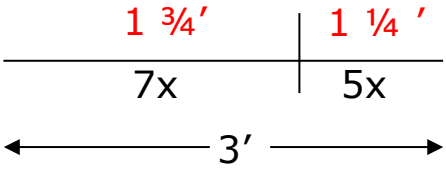

$4x + 5x = 180$
$9x = 180$
$x = 20$

b) The ratio of two complementary angles is 2:3. Find the measures of each angle.



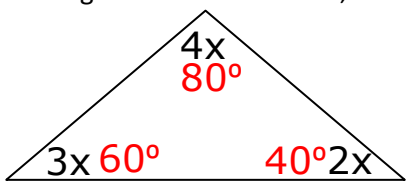

$2x + 3x = 90$
$5x = 90$
$x = 18$

c) A 3 foot stick is broken into two pieces. The ratio of the two pieces is 5:7. How big are the two pieces?




$7x+5x=3$
$12x=3$
$x=3/12=¼'$

d) Is the largest angle acute, right or obtuse in a triangle that has angles measures in ratio, 2:3:4?




Acute

$3x + 4x + 2x = 180$
$9x = 180$
$x = 20$