Ratio and Proportion Challenge Problems Name _____

For Full Credit, you MUST Show your work or Explain your thought process.

. Two numbers are in the ratio 3:8. Their sum is 44. What is the difference between the two numbers?

2. Terry cut a rope 35 inches long into two pieces in the ratio 3:4. What is the length of the longer piece?

3. Luis and Cameron shared some stickers in the ratio 5:2. Luis received 15 more stickers than Cameron. How many stickers were there altogether?

4. Armand cuts a piece of wire into two smaller pieces that are in a ratio 7:5. The shorter piece is 40 cm. What was the length of the original piece of wire?

5. There are 22 more boys than girls at a school play. The ratio of boys to girls is 7:5. How many students were there altogether?

Good Luck!

6. A strand of wire 120 cm long is cut into several shorter pieces. Each of these pieces will be bent into squares. Each square will have a side equal to 2 cm. How many pieces of wire were there?

7. The ratio of the area of a rectangle to the area of a triangle is 2:5. The rectangle has a length of 6 cm and a width of 4 cm. What is the area of the triangle?

If You Dare!

8. A triangle has a perimeter of 90 cm. The lengths of the three sides are in the ratio 5:12:13. What is the length of the shortest side?

Ratio and Proportion Challenge Problems Name Key

For Full Credit, you MUST Show your work or Explain your thought process.

.. Two numbers are in the ratio 3:8. Their sum is 44. What is the difference between the two numbers?

$\frac{3}{8} \overset{\times 4}{=} \frac{12}{32}$ $\quad \frac{\times 4}{}$

Difference $32 - 12 = 20$

Sum 11 $\xrightarrow{\times 4}$ Sum 44

2. Terry cut a rope 35 inches long into two pieces in the ratio 3:4. What is the length of the longer piece?

Shorter / longer $\quad \frac{3}{4} \overset{\times 5}{=} \frac{15}{20}$

20 inches is the longer piece

Total Length 7 inches $\xrightarrow{\times 5}$ 35 inches

3. Luis and Cameron shared some stickers in the ratio 5:2. Luis received 15 more stickers than Cameron. How many stickers were there altogether?

Luis / Cameron $= \frac{5}{2} \overset{\times 2}{=} \frac{10}{4} = \frac{15}{6} = \frac{20}{8} = \frac{25}{10}$

35 stickers altogether

4. Armand cuts a piece of wire into two smaller pieces that are in a ratio 7:5. The shorter piece is 40 cm. What was the length of the original piece of wire?

longer / shorter $\quad \frac{7}{5} \overset{\times 8}{=} \frac{56}{40}$

the original wire is 96 cm long

5. There are 22 more boys than girls at a school play. The ratio of boys to girls is 7:5. How many students were there altogether?

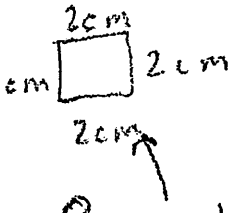
$\frac{\text{boys}}{\text{girls}} = \frac{7}{5} \begin{matrix} \times 11 \\ \times 11 \end{matrix} = \frac{77}{55}$]+

132 students altogether

Difference of 2 → Difference of 22

Good Luck!

6. A strand of wire 120 cm long is cut into several shorter pieces. Each of these pieces will be bent into squares. Each square will have a side equal to 2 cm. How many pieces of wire were there?



8cm long

$\frac{120 \text{ cm long}}{8 \text{ cm long pieces}} =$ 15 pieces of wire

7. The ratio of the area of a rectangle to the area of a triangle is 2:5. The rectangle has a length of 6 cm and a width of 4 cm. What is the area of the triangle?

$A = L \times w$

$A = 6 \times 4 = 24$

$\frac{\text{Area of Rect}}{\text{Area of Tri.}} = \frac{2}{5} \begin{matrix} \times 12 \\ \times 12 \end{matrix} = \frac{24}{60}$

Area of Triangle = 60 cm^2

If You Dare!

8. A triangle has a perimeter of 90 cm. The lengths of the three sides are in the ratio 5:12:13. What is the length of the shortest side?

Perimeter of this Δ is 30

$\frac{\text{Shortest}}{\text{perimeter}} = \frac{5}{30} \begin{matrix} \times 3 \\ \times 3 \end{matrix} = \frac{15}{90}$

Length of shortest side = 15 cm