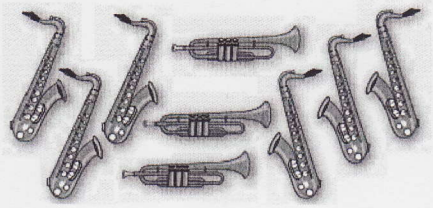
Center #1 – Write the ratio and explain what the ratio means.

1. butterflies : caterpillars

2. saxophones : trumpets



The ratio of boys to girls in a class is 2:5. If there are 42 students in the class, how many are boys?

Center #2 – Write a unit rate for the situation

1. 288 miles on 9 gallons

2. 308 miles in 1.5 hours

3. $6\frac{2}{5}$ revolutions in $2\frac{2}{3}$ seconds

Center #3 – Solve the proportion

1) $\frac{2}{3} = \frac{x}{21}$

2) $\frac{5}{12} = \frac{y}{15}$

3) $\frac{8}{20} = \frac{6}{w}$

4) The ratio of adults to children is 5 to 3. If there are 90 adults, how many children are there?

5) Fred sells 46 boxes in 4 hours, Jeff sells 57 boxes in 5 hours. Who sold more per hour?

Math 6 Acc Ch 5/14 (Ratios) p242 #1-6 all, 17, 18 p644 #3-6 all, 9, 10, 16, 18

Center #4

Which one is the better buy?
5 ounce can of tuna for $0.90
12 ounce can of tuna for $2.40

Which one contains more sugar per ounce?
24 grams of sugar in 6 fluid ounces
15 grams of sugar in 4 fluid ounces

Center #5 – Tell whether the ratios form a proportion

1) $\frac{4}{9}, \frac{2}{3}$

2) $\frac{32}{40}, \frac{12}{15}$

3) $\frac{4}{5}, \frac{58}{72.5}$

Are x and y in a proportional relationship? How do you know?

x	1	3	6	8
y	4	12	24	32

X	Y
4	3
8	7
12	11
16	15

Center #6 – Solve the proportion

1) $\frac{7}{n} = \frac{42}{48}$

2) $\frac{3}{11} = \frac{27}{z}$

3) $\frac{x}{4} = \frac{2}{5}$

4) If four speeches last 10 hours, how many hours will six speeches last?

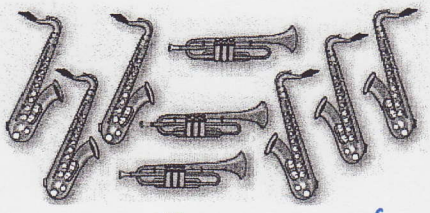
5) You mix $\frac{1}{2}$ gallon of yellow paint for every 1 gallon of blue paint to make 12 gallons of green paint. How much yellow and blue paint did you use?

Center #1 – Write the ratio and explain what the ratio means.

1. butterflies : caterpillars

3:2 For every 3 butterflies there are 2 caterpillars

2. saxophones : trumpets



6:3 For every 6 saxophones there are 3 trumpets.

The ratio of boys to girls in a class is 2:5. If there are 42 students in the class, how many are boys?

2:5 → 7 total groups

42 ÷ 7 = 6 in each group

2 groups of boys × 6 = 12 boys

Center #2 – Write a unit rate for the situation

1. 288 miles on 9 gallons

$\frac{288\text{ mi}}{9\text{ gal}} \overset{\div 9}{=} \frac{32\text{ mi}}{1\text{ gal}}$ (÷9)

32 miles for 1 gallon

2. 308 miles in 1.5 hours

308 ÷ 1.5

205.$\overline{3}$ miles/hr

OR

205 $\frac{1}{3}$ miles in 1 hour

3. $6\frac{2}{5}$ revolutions in $2\frac{2}{3}$ seconds

$6\frac{2}{5} \div 2\frac{2}{3}$

$\frac{32}{5} \div \frac{8}{3}$

$\frac{32}{5} \cdot \frac{3}{8} = \frac{12}{5} = 2\frac{2}{5}$ revolutions in 1 second.

Center #3 – Solve the proportion

1) $\frac{2}{3} \overset{\times 7}{=} \frac{x}{21}$ (×7)

x = 14

2) $\frac{5}{12} = \frac{y}{15}$

12y = 75

y = 6.25

3) $\frac{8}{20} = \frac{6}{w}$ (↓ ×3)

$\frac{2}{5} \overset{\times 3}{=} \frac{6}{w}$

w = 15

4) The ratio of adults to children is 5 to 3. If there are 90 adults, how many children are there?

90 ÷ 5 = 18 in each group

18 × 3 = 54 children

5) Fred sells 46 boxes in 4 hours, Jeff sells 57 boxes in 5 hours. Who sold more per hour?

46 ÷ 4 = 11.5 boxes/hr

57 ÷ 5 = 11.4 boxes/hr

Fred

Center #4

Which one is the better buy?
5 ounce can of tuna for $0.90
12 ounce can of tuna for $2.40

$0.90 \div 5 = \$0.18/oz$

$2.40 \div 12 = \$0.20/oz$

5 ounce is better buy

Which one contains more sugar per ounce?
24 grams of sugar in 6 fluid ounces
15 grams of sugar in 4 fluid ounces

$24 \div 6 = 4$ grams/ounce

$15 \div 4 = 3.75$ grams/ounce

24 grams of sugar in 6 oz has more sugar

Center #5 – Tell whether the ratios form a proportion

1) $\frac{4}{9}, \frac{2}{3}$

$\frac{2}{3}$

No

2) $\frac{32 \div 8}{40 \div 8}, \frac{12 \div 3}{15 \div 3}$

$\frac{4}{5}, \frac{4}{5}$

yes

3) $\frac{4}{5} \times \frac{58}{72.5}$

$72.5 \times 4 = 290$ $\quad 58 \times 5 = 290$

yes

Are x and y in a proportional relationship? How do you know?

x	1	3	6	8
y	4	12	24	32

(×4 from each x to each y)

yes

X	Y	
4	3	$\frac{4}{3} = 1\frac{1}{3}$
8	7	$\frac{8}{7} = 1\frac{1}{7}$
12	11	$\frac{12}{11} = 1\frac{1}{11}$
16	15	$\frac{16}{15} = 1\frac{1}{15}$

Not the same.

No

Center #6 – Solve the proportion

1) $\frac{7}{n} = \frac{42}{48}$ (×6 from 7 to 42, ×6 from n to 48)

$n = 8$

2) $\frac{3}{11} = \frac{27}{z}$ (×9 from 3 to 27, ×9 from 11 to z)

$z = 99$

3) $\frac{x}{4} \times \frac{2}{5}$

If $2 \times \boxed{3} = 6$, $6 \div 2 = 3$. So $8 \div 5$ will equal x.

$5x = 8$

$x = \frac{8}{5} = 1\frac{3}{5}$

4) If four speeches last 10 hours, how many hours will six speeches last?

$10 \div 4 = 2.5$ hrs per speech

$2.5 \times 6 = 15.0$

15 hours

5) You mix $\frac{1}{2}$ gallon of yellow paint for every 1 gallon of blue paint to make 12 gallons of green paint. How much yellow and blue paint did you use?

$\frac{1}{2} + 1 = 1\frac{1}{2} \rightarrow 12 \div 1\frac{1}{2} = 8$

yellow → $8 \times \frac{1}{2} = 4$ gallons

blue → $8 \times 1 = 8$ gallons