county fair
$C = 5 + 2 \cdot R$
not proportional

from yesterday

chicken proportional
$C = 1.75p$

yogurt
$C = 6.40 \cdot P$
proportional

yogurt plus cup
$C = (6.40 \cdot y) + 0.50$
not proportional

Roger's gas
$35 \cdot G = M$
proportional

How can we recognize proportion equations?
Multiplication only, no adding or subtracting

Proportional Equations

$y = kx$

$C = 3g$

↓

constant of proportionality

1/28 Which equations are proportional?

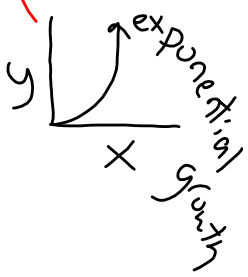
$y = 3x$ yes

$y = 3x + 5$ No

$B = 2x^2$ no

$C = \frac{1}{4}d$ yes

$y = 1x$ yes



$y = x^2$

x	y
0	0
1	1
2	4
3	9

NO

x	y

Graeme earns $4.23 for each half-hour that he works.

Find his unit rate. $8.64 per hour

Write an equation to show much money (m) he earns during a given amount of time (h).

$m = 8.46h$

8.46 ↑ Constant of Proportionality

Jamie ran 9 miles in 1.5 hours.

Write an equation to show far can she run in a given amount of time, if she runs at a constant rate.

m = miles

h = hours

$1.5\overline{)9.0}$

$15\overline{)90}$ → 6

6 miles / hr ← unit rate

equation

$m = 6h$

constant of proportionality

A recipe calls for $2\frac{2}{3}$ cups of flour to make two regular batches of cookies.

Write an equation to show how much flour you need for multiple batches of cookies.

Complete the ratio table.

7	5
14	
35	25
	30
63	

Ms. Lopez's Granola

Cups of Oats	Cups of Almonds
3	1
	2
9	
15	5
	10

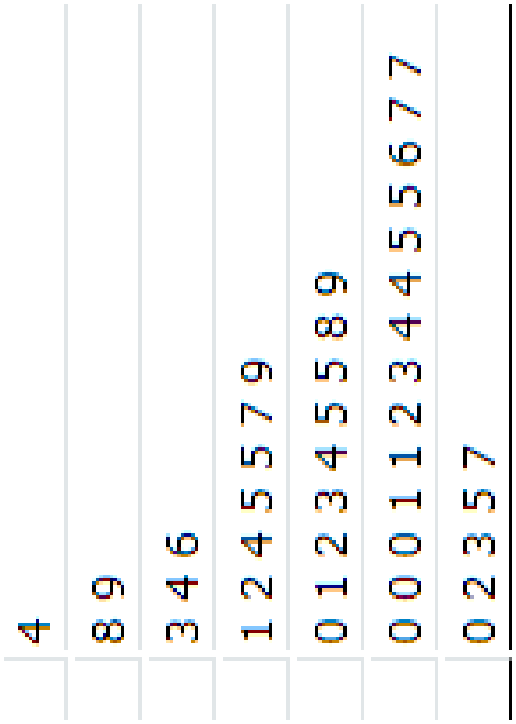
Mr. Lee's Granola

Cups of Oats	Cups of Almonds
5	3
	6
15	9
20	
	15

$$92\frac{1}{6} - 78\frac{7}{10}$$

Table 10. Math scores of 41 students

Stem	Leaf
0	4
1	8 9
2	3 4 6
3	1 2 4 5 5 7 9
4	0 1 2 3 4 5 5 8 9
5	0 0 0 1 1 2 3 4 4 5 5 6 7 7
6	0 2 3 5 7



$-|-5| =$

$-(-5) =$

$$92\frac{1}{6} - 78\frac{7}{10}$$

Remove one of each shape from the bag and put it on your desk. Trace around each shape on your paper.