Name Student A

The ratio of the number of boys to the number of girls at school is 4:5.

a. What fraction of the students are boys? Justify your answer.

$\frac{4}{9}$ There are 4 boys + 5 girls and 9 total students

b. If there are 120 boys, how many students are there altogether? Justify your answer using at least two different strategies.

120 Boys

Boys	Girls
120	☐
4	5

$\frac{120}{4} = \frac{30}{1}$

Boys: $4 \times 30 = 120$

Girls $5 \times 30 = 150$

Total 270

Name Student B

The ratio of the number of boys to the number of girls at school is 4:5.

a. What fraction of the students are boys? Justify your answer.

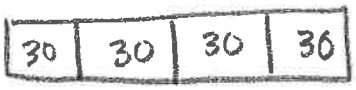
boys : girls
4 : 5

$\frac{4 \text{ boys}}{9 \text{ students}}$ $\frac{5 \text{ girls}}{9 \text{ students}}$

When you add the boys + girls together you get 9 total students

b. If there are 120 boys, how many students are there altogether? Justify your answer using at least two different strategies.

Way 1

Boys  = 120

Girls  = 150

120
150
270 total students

$\frac{120 \text{ Boys}}{270 \text{ Students}}$

Way 2

B	G	Students
4	5	9
40	50	90
80	100	180
120	150	270

$\frac{120 \text{ Boys}}{270 \text{ Students}}$

Name Student C

The ratio of the number of boys to the number of girls at school is 4:5.

a. What fraction of the students are boys? Justify your answer.

$\frac{4}{9}$

b. If there are 120 boys, how many students are there altogether? Justify your answer using at least two different strategies.

$\frac{120}{270}$

Name Student D

The ratio of the number of boys to the number of girls at school is 4:5.

a. What fraction of the students are boys? Justify your answer.

$\frac{4}{5}$

b. If there are 120 boys, how many students are there altogether? Justify your answer using at least two different strategies.

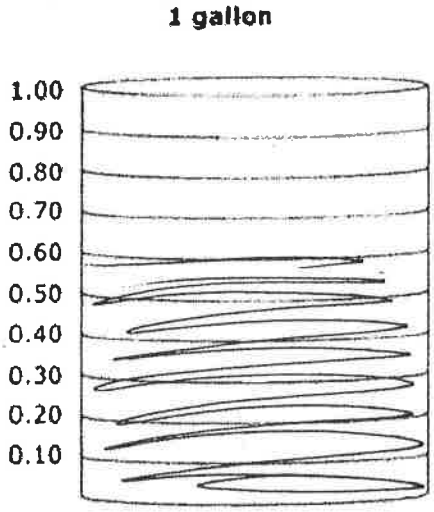
$\frac{120}{150}$

Name Student A

Tim makes 80 gallons of paint by mixing 48 gallons of green paint with 32 gallons of blue paint.

What part of every gallon is from green paint?

The model represents 1 gallon of mixed paint. Color in the number of sections to show much of the gallon is from green paint.



$\frac{32}{48} = \frac{4}{6} = \frac{2}{3} = .6$

Tim needed 50 additional gallons of paint. He made 50 gallons by mixing 28 gallons of green paint with 22 gallons of blue paint.

Will this produce the same color as his 80 gallon mix? Mathematically justify your solution.

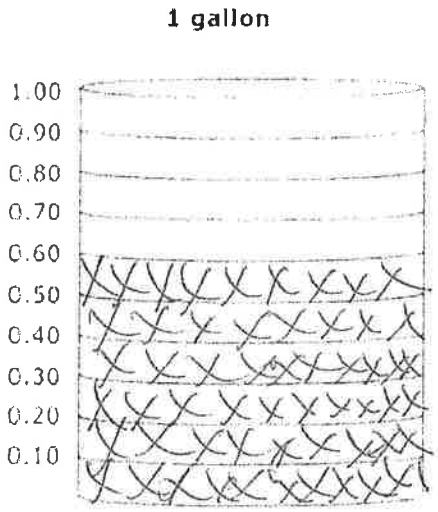
If it won't, how many gallons of which colors should be added or subtracted to create 50 gallons of the same color as the 80 gallons? Mathematically justify your solution.

Name Student B

Tim makes 80 gallons of paint by mixing 48 gallons of green paint with 32 gallons of blue paint.

What part of every gallon is from green paint?

The model represents 1 gallon of mixed paint. Color in the number of sections to show much of the gallon is from green paint.



$\frac{48}{80} = \frac{6}{10} = .6$

Tim needed 50 additional gallons of paint. He made 50 gallons by mixing 28 gallons of green paint with 22 gallons of blue paint.

Will this produce the same color as his 80 gallon mix? Mathematically justify your solution.

If it won't, how many gallons of which colors should be added or subtracted to create 50 gallons of the same color as the 80 gallons? Mathematically justify your solution.

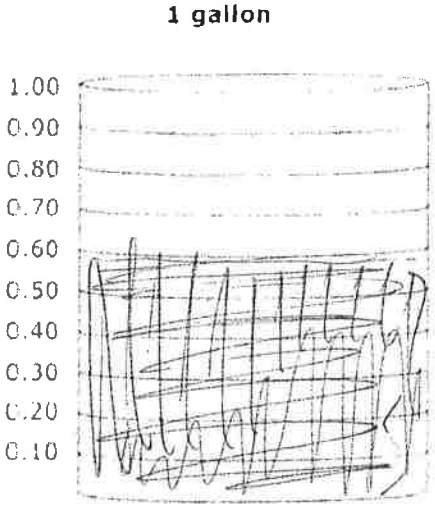
$50 \times .6 = 30$ - not it won't make the same color.

Name Student C

Tim makes 80 gallons of paint by mixing 48 gallons of green paint with 32 gallons of blue paint.

What part of every gallon is from green paint?

The model represents 1 gallon of mixed paint. Color in the number of sections to show much of the gallon is from green paint.



$\frac{48}{80} = .6$

Tim needed 50 additional gallons of paint. He made 50 gallons by mixing 28 gallons of green paint with 22 gallons of blue paint.

Will this produce the same color as his 80 gallon mix? Mathematically justify your solution.

If it won't, how many gallons of which colors should be added or subtracted to create 50 gallons of the same color as the 80 gallons? Mathematically justify your solution.

80 gal

G : B

48 : 32

6 : 4

3 : 2

50 gal

G : B

28 : 22

14 : 11

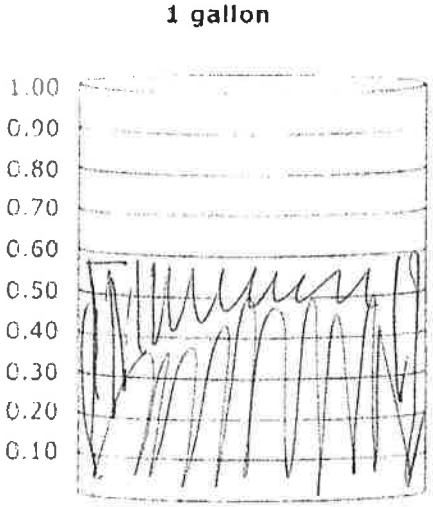
When you reduce the ratios of the 80 gal batch & 50 gal batch the ratios are not the same so it won't make the same color.

Name Student D

Tim makes 80 gallons of paint by mixing 48 gallons of green paint with 32 gallons of blue paint.

What part of every gallon is from green paint?

The model represents 1 gallon of mixed paint. Color in the number of sections to show much of the gallon is from green paint.



$\frac{48}{80}$ – green paint / total gal

$= \frac{6}{10} = \frac{3}{5} = .6$

Tim needed 50 additional gallons of paint. He made 50 gallons by mixing 28 gallons of green paint with 22 gallons of blue paint.

Will this produce the same color as his 80 gallon mix? Mathematically justify your solution.

If it won't, how many gallons of which colors should be added or subtracted to create 50 gallons of the same color as the 80 gallons? Mathematically justify your solution.

80 gal $\frac{48}{80}$ G $= .6$ of the paint is green

50 gal $\frac{28}{50}$ G $= .56$ of the paint is green

Will not make the same color, not enough green in 50 gal

80 gal $= \frac{48}{32}\frac{G}{B} = \frac{3}{2}\frac{G}{B}$

50 gal $\frac{28}{22}\frac{G}{B}$ (+2, −2) $= \frac{30}{20} = \frac{3}{2}\frac{G}{B}$

If you add 2 gal to the green pt (28 + 2 = 30) & take away 2 gal from blue paint (22 − 2 = 20) – then the

Student A

Anna and Jason have summer jobs stuffing envelopes for two different companies. Anna earns $14 for every 400 envelops she finishes. Jason earns $9 for every 300 envelopes he finishes.

a) Who makes more from stuffing the same number of envelopes? Justify you answer, such as using mathematics, words, table, graph, and/or equations.

Anna made $14 and Jason made $9, So Anna makes more money.

b) Write an equation that represents both Anna and Jason earnings. (As a function of the number of envelopes stuffed)

Student B

Anna and Jason have summer jobs stuffing envelopes for two different companies. Anna earns $14 for every 400 envelops she finishes. Jason earns $9 for every 300 envelopes he finishes.

a) Who makes more from stuffing the same number of envelopes? Justify you answer, such as using mathematics, words, table, graph, and/or equations.

Anna $14 per 400 envelopes

Jason $9 per 300 envelopes

Anna $\frac{14}{400} = \$$ [redacted] 0.035 per envelope

Jason $\frac{9}{300} = \$$ 0.03 per envelope

Anna makes $0.035 per envelope and Jason only makes $[redacted] per envelope

b) Write an equation that represents both Anna and Jason earnings. (As a function of the number of envelopes stuffed)

Anna $y = 0.035x$ $0.035(400) = \$14.00$

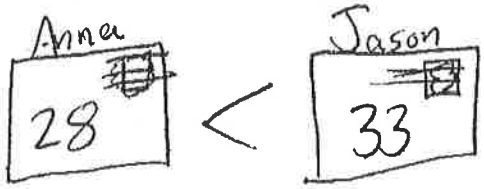
Jason $y = 0.03x$ $0.03(300) = \$9.00$

y = total money x = envelopes

Student C

Anna and Jason have summer jobs stuffing envelopes for two different companies. Anna earns $14 for every 400 envelops she finishes. Jason earns $9 for every 300 envelopes he finishes.

a) Who makes more from stuffing the same number of envelopes? Justify you answer, such as using mathematics, words, table, graph, and/or equations.



Anna $\frac{400}{14} = 28$

Jason $\frac{300}{9} = 33$

Jason is making more money.

b) Write an equation that represents both Anna and Jason earnings. (As a function of the number of envelopes stuffed)

Student D

Anna and Jason have summer jobs stuffing envelopes for two different companies. Anna earns $14 for every 400 envelops she finishes. Jason earns $9 for every 300 envelopes he finishes.

a) Who makes more from stuffing the same number of envelopes? Justify you answer, such as using mathematics, words, table, graph, and/or equations.

Jason

$\frac{300}{\$9} \div 3 \div 3 \quad \frac{100}{\$3.00}$

Jason would make $3.00 for every 100 envelopes ~~sold~~ stuffed.

Anna

Anna makes more for each 100 envelopes, 50¢ more

$\frac{400}{\$14} \div 4 \div 4 = \frac{100}{\$3.50}$

Anna would make $3.50 for every 100 envelopes ~~sold~~ stuffed.

b) Write an equation that represents both Anna and Jason earnings. (As a function of the number of envelopes stuffed)

Jason

$m = 3.00e$

Anna

$m = 3.50e$