

Unity Mathematics department.

Year 7

Your class teachers will set you tasks on Hegarty and mymaths.co.uk that are individual for your classes. Please check this for your upto date work.

Mymaths school login is:

Username: Unity

Password: Minus

In order to keep up with the scheme of work we have attached the current topics from the white rose scheme of work. You should aim to complete 3 a week.

There are videos and additional help available below.

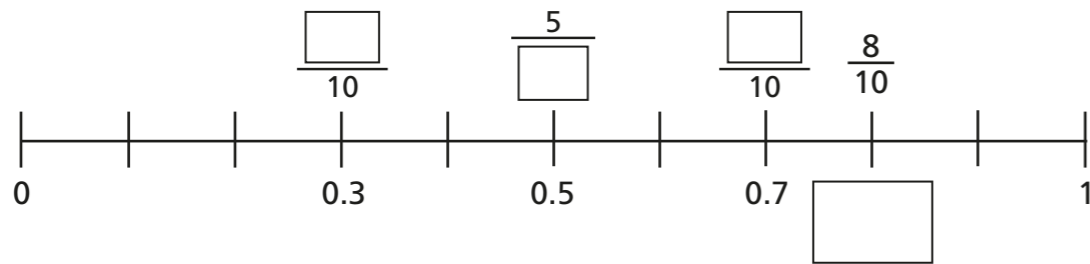
<https://whiterosemaths.com/homelearning/year-7/>

If you are stuck email maths@unity.fcat.org.uk and include your teachers name.

Use equivalence to add and subtract decimals and fractions



1 a) Fill in the boxes on the number line.



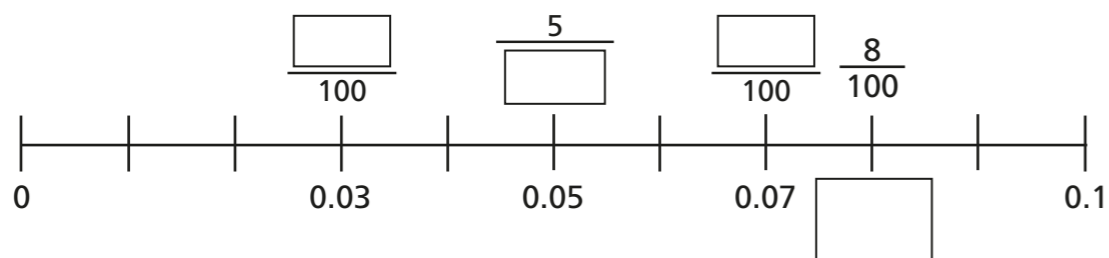
b) Work out the calculations.

Give your answers as decimals.

You could use the number line to help you.

$$\frac{3}{10} + 0.5 = \square \quad 1 - \frac{8}{10} = \square \quad \frac{7}{10} + 0.3 = \square$$

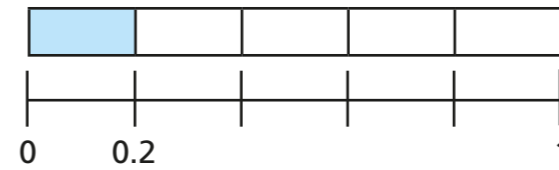
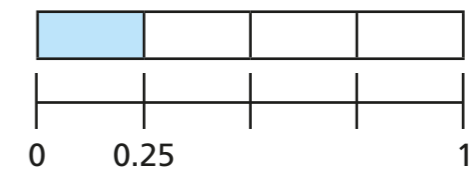
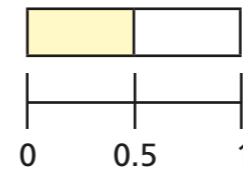
2 a) Fill in the boxes on the number line.



b) Work out the calculations. Give your answers as decimals.

$$0.05 + \frac{3}{100} = \square \quad 0.1 - \frac{8}{100} = \square$$

3 Here are some bar models drawn above number lines.



a) Write each decimal as a fraction. You could use the bar models to help you.

$$0.5 = \square \quad 0.25 = \square \quad 0.2 = \square$$

b) Use the number lines and your answers to part a) to work out the calculations.

Give your answers as decimals.

$$0.1 + \frac{1}{2} = \square \quad \frac{1}{5} + 0.5 = \square \quad 0.90 - \frac{1}{4} = \square$$

4 a) Work out $0.3 + \frac{3}{5}$

Give your answer as a decimal.

b) Work out $\frac{1}{6} + 0.75$

Give your answer as a fraction.

5 Ron and Whitney are working out the calculation $\frac{3}{4} - 0.2$



I am going to start by converting $\frac{3}{4}$ to a decimal.



I am going to convert 0.2 to a fraction.

Ron's method

$$\frac{3}{4} = 0.75$$

$$0.75 - 0.2 = 0.73$$

Whitney's method

$$0.2 = \frac{1}{5}$$

$$\frac{3}{4} - \frac{1}{5} = \frac{15}{20} - \frac{4}{20} = \frac{11}{20}$$

a) What mistake has Ron made?

b) Convert Whitney's answer to a decimal.

6 Work out the calculations. Give your answers as decimals.

a) $0.6 - \frac{1}{2}$

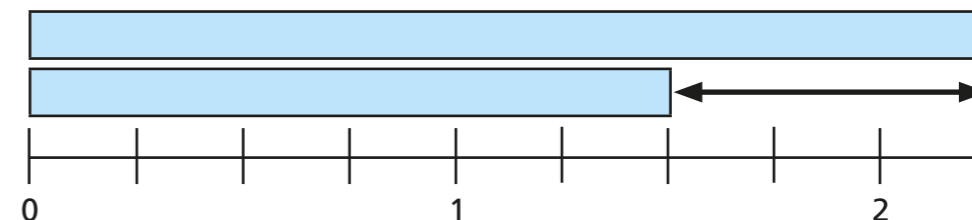
c) $0.65 - \frac{1}{4}$

b) $0.7 - \frac{1}{5}$

d) $\frac{9}{10} - 0.25$

Did you convert the fraction to a decimal before or after doing the calculation? Compare methods with a partner.

7 Here is a representation of a calculation.



Which of these is **not** the calculation shown? Circle your answer.

$\frac{9}{4} - 1.5$

$2.1 - 1\frac{1}{2}$

$2.25 - \frac{3}{2}$

$2\frac{5}{20} - 1.50$

8 The same digit is missing from each box.

Which digits would give a terminating answer?

$$0.\boxed{} + \frac{1}{\boxed{}}$$

Can you explain why some digits don't give a terminating decimal?

Add and subtract simple algebraic fractions



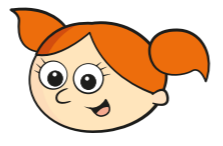
1 Work out the calculations.

a) $\frac{1}{3} + \frac{1}{3} = \square$ $\frac{1}{29} + \frac{1}{29} = \square$

$\frac{1}{15} + \frac{1}{15} = \square$ $\frac{1}{x} + \frac{1}{x} = \square$

b)

To double a fraction you just double the numerator.



Do you agree with Alex? _____
Explain your answer.

2 Work out the calculations.

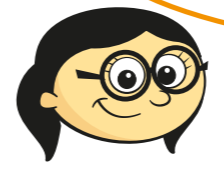
a) $\frac{1}{5} + \frac{1}{5} = \square$ b) $\frac{1}{2} + \frac{1}{4} = \square$

$\frac{6}{5} + \frac{6}{5} = \square$ $\frac{1}{5} + \frac{1}{10} = \square$

$\frac{29}{5} + \frac{29}{5} = \square$ $\frac{1}{29} + \frac{1}{58} = \square$

$\frac{x}{5} + \frac{x}{5} = \square$ $\frac{1}{x} + \frac{1}{2x} = \square$

3 Annie is calculating with algebraic fractions.



I can work out $\frac{1}{k} + \frac{1}{k}$ because the denominator is the same, so $\frac{1}{k} + \frac{1}{k} = \frac{1+1}{k} = \frac{2}{k}$

Use Annie's method to complete the calculations.

a) $\frac{3}{m} + \frac{4}{m} = \square$

c) $\frac{1}{p} - \frac{4}{p} = \square$

b) $\frac{12}{n} - \frac{5}{n} = \square$

4 Here is an algebraic expression.

$\frac{4}{r} + \frac{2}{r}$

a) Write the expression as a single fraction.

b) Evaluate the expression when $r = 2$

c) For what value of r is $\frac{4}{r} + \frac{2}{r} > 1$?

Is there more than one answer?

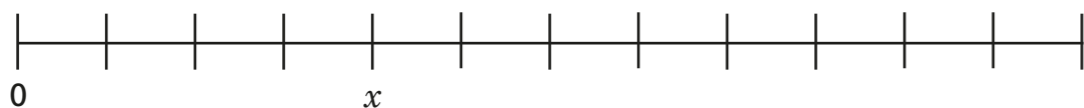
5 Simplify the expressions.

a) $\frac{1}{x} + \frac{1}{3x} =$

b) $\frac{2}{x} - \frac{3}{5x} =$

Discuss your method with a partner.

6 The number line shows 0 and x .



Position the expressions on the number line.

Write a simplified fraction where required.

a) $2x$

c) $\frac{x}{4}$

e) $2x - \frac{3x}{4} =$

b) $\frac{x}{2}$

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

f) $x + \frac{x}{2} =$

7 a) A sequence starts at zero and goes up by $\frac{a}{5}$ each term.

Write the first five terms of the sequence.

b) Another sequence starts at zero and goes up by $\frac{2a}{5}$ each term.

Write the first five terms of this sequence.

8 Simplify the expressions using equivalent fractions.

a) $\frac{x}{2} + \frac{x}{3} =$

b) $\frac{2x}{3} - \frac{x}{2} =$

9 Solve the equations. Show all of your working.

a) $\frac{1}{x} + \frac{3}{x} = 1$

$x =$

b) $\frac{3}{y} + \frac{5}{y} = 1$

$y =$

c) $\frac{11}{z} - \frac{9}{2z} = 1$

$z =$

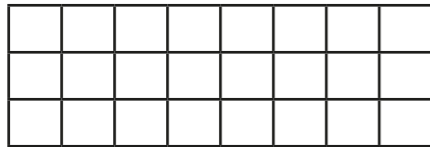
10 How would you simplify these expressions?

$\frac{3}{2x} + \frac{1}{3x}$

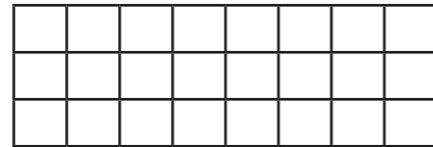
$\frac{1}{t} + \frac{1}{2t} + \frac{1}{3t}$

Add and subtract fractions with any denominator

1 a) Shade the grids to represent the fractions.

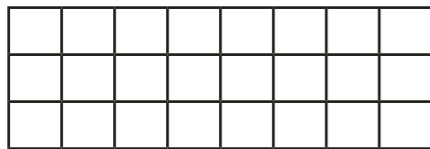


$$\frac{2}{3}$$



$$\frac{1}{8}$$

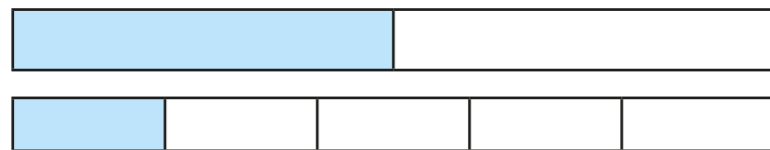
b) Use the grids to show that $\frac{2}{3} + \frac{1}{8} = \frac{19}{24}$



c) Why do you think this particular size grid was chosen?

2 Annie is working out $\frac{1}{5} + \frac{1}{2}$

She uses bar models.



Divide each bar into tenths and work out the answer to the question.

$$\frac{1}{5} + \frac{1}{2} = \square$$



3 Tommy is calculating $\frac{1}{5} + \frac{5}{8}$

Here are his workings.

$40 = 5 \times 8$
 The lowest common multiple of 5 and 8 is 40
 $\frac{1 \times 8}{5 \times 8} = \frac{8}{40}$
 $\frac{5 \times 5}{8 \times 5} = \frac{25}{40}$
 $\frac{1}{5} + \frac{5}{8} = \frac{8}{40} + \frac{25}{40}$
 $= \frac{33}{40}$

Do you agree with Tommy? _____

Talk about it with a partner

4 Work out the additions.

a) $\frac{1}{4} + \frac{1}{2} = \square$

d) $\frac{1}{4} + \frac{2}{5} = \square$

b) $\frac{1}{4} + \frac{1}{3} = \square$

e) $\frac{3}{4} + \frac{1}{6} = \square$

c) $\frac{1}{4} + \frac{2}{3} = \square$

f) $\frac{3}{4} + \frac{2}{9} = \square$



5 Work out the subtractions.

a) $\frac{3}{4} - \frac{2}{3} =$

c) $\frac{8}{9} - \frac{5}{6} =$

b) $\frac{9}{10} - \frac{2}{3} =$

d) $\frac{7}{8} - \frac{2}{3} =$

6 Here are four fractions.

$\frac{5}{12}$

$\frac{3}{11}$

$\frac{2}{9}$

$\frac{7}{15}$

a) Which two fractions add together to give $\frac{49}{99}$?

and

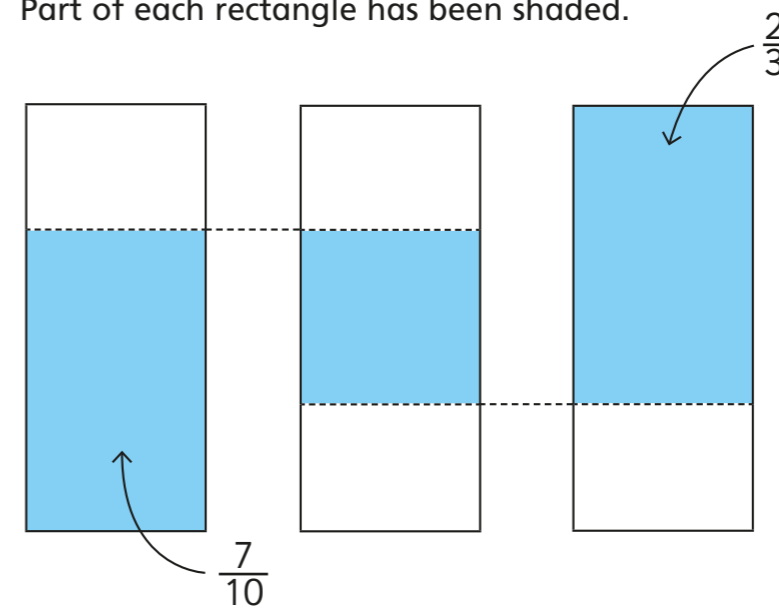
b) Which two fractions add together to give $\frac{23}{36}$?

and

7 Work out $1 - \frac{1}{5} - \frac{1}{12}$

8 Here are three identical rectangles.

Part of each rectangle has been shaded.



What fraction of the middle rectangle has been shaded?

9 How would you work out these calculations without a calculator?

Discuss your methods with a partner.

a) $\frac{14}{91} + \frac{3}{13}$

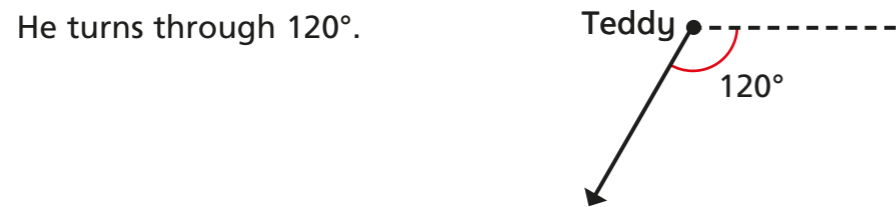
b) $(\frac{4}{7} - \frac{2}{17}) + (\frac{3}{7} - \frac{38}{51})$

c) $\frac{1}{2} - \frac{1}{3} + \frac{1}{4} - \frac{1}{5} + \frac{1}{6}$

Understand and use the sum of angles at a point

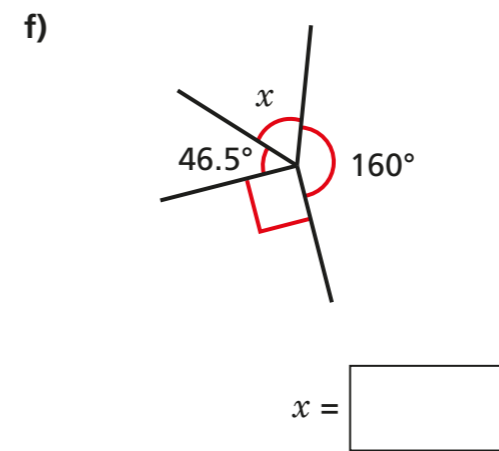
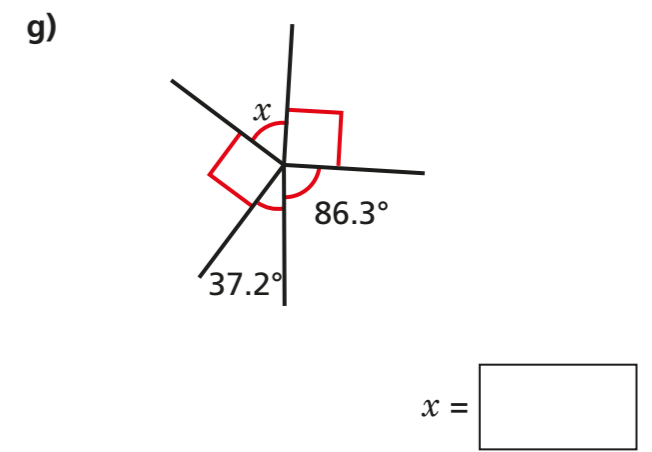
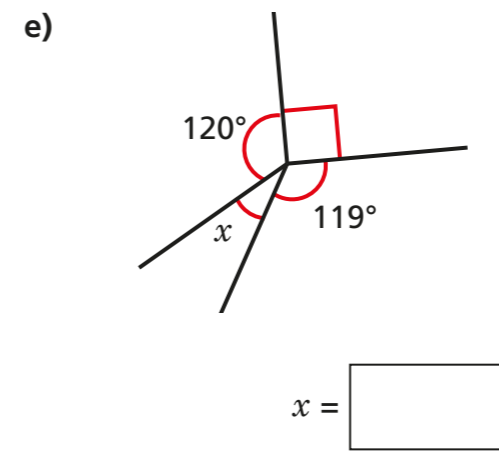
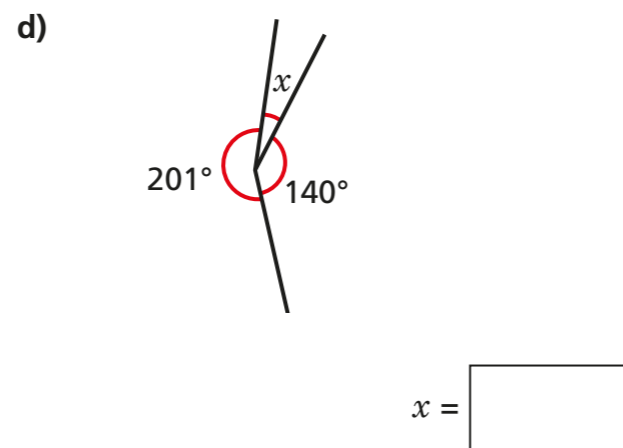
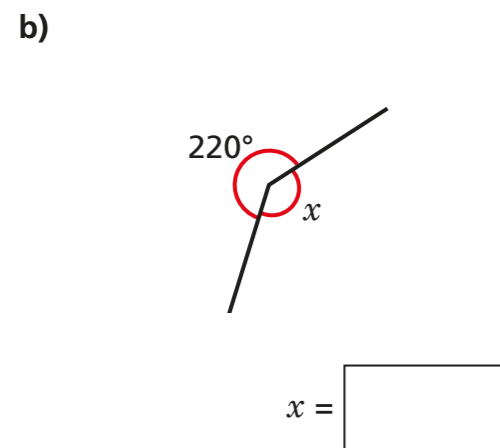
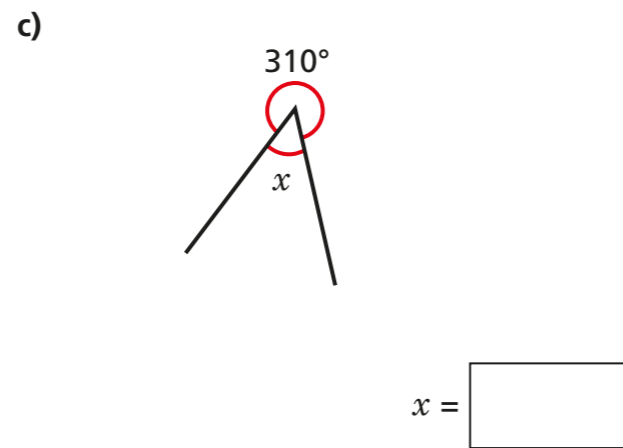
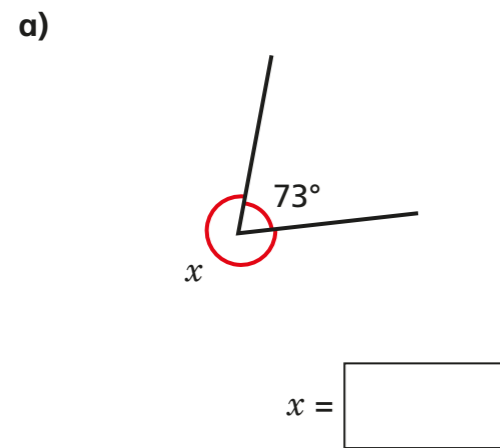
1 a) How many degrees are in a full turn?

b) Teddy is facing forward. 

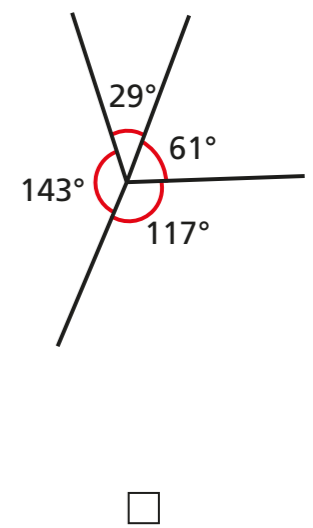
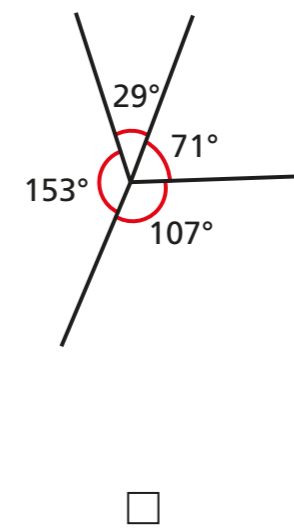
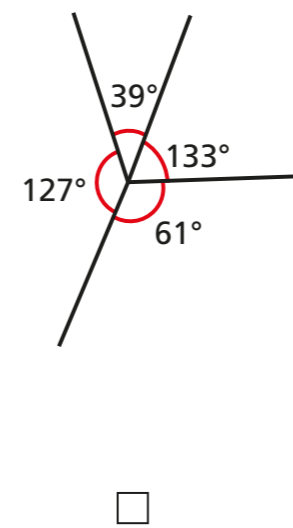


How many more degrees does he need to turn through to get back to his starting point?

2 Find the size of angle x .



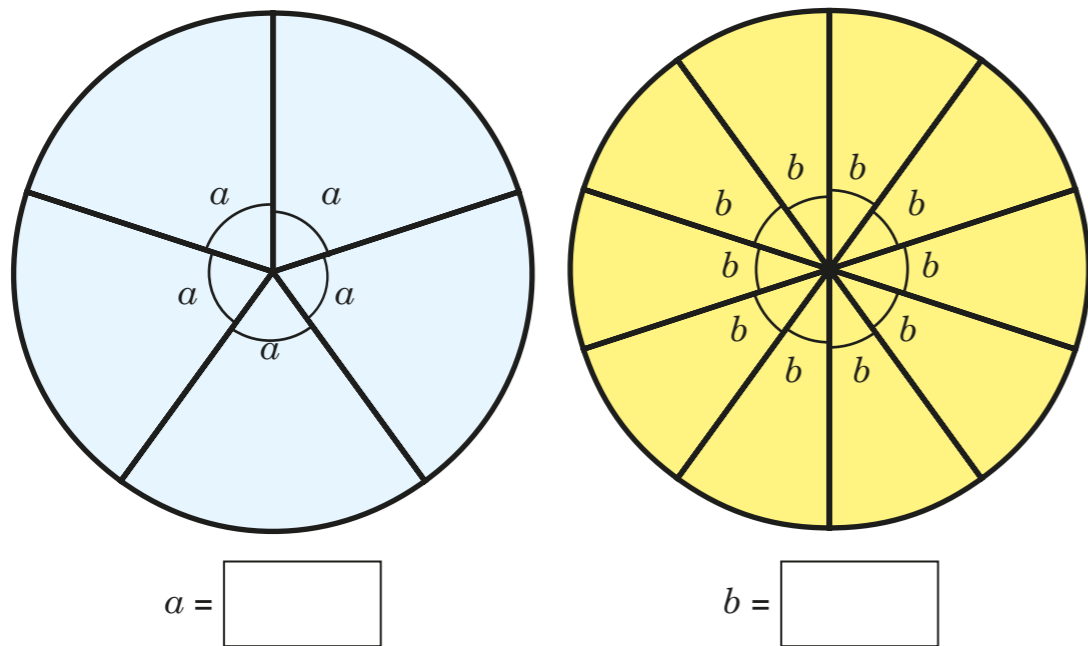
3 Tick the correct diagram.



Explain your choice.

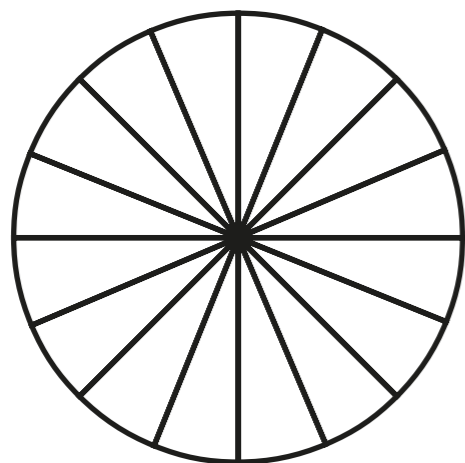


- 4 a) Find the sizes of angles a and b .



Discuss with a partner how you worked them out.

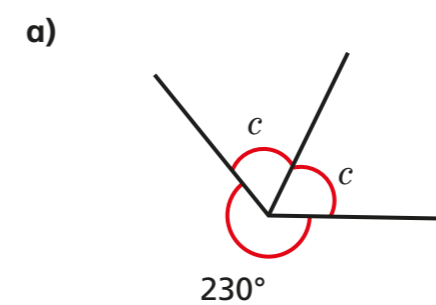
- b) Annie draws a pie chart.
She splits it into 16 equal sectors.
What is the angle of each sector?



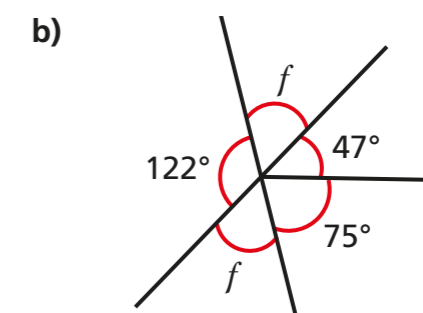
- c) Annie's pie chart represents 800 students.
How many students are represented in 5 of the sections?

 students

- 5 Work out the sizes of the unknown angles.



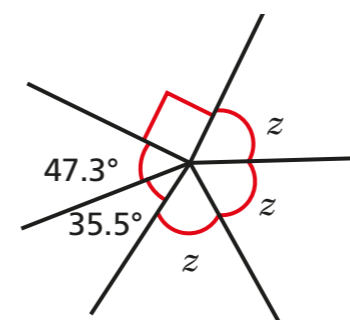
$c =$



$f =$

Compare your method with a partner's.

- 6 Form and solve an equation to find the size of angle z .



$z =$

- 7 Four line segments are drawn from a point O.
They are OP, OQ, OR and OS.
P, Q, R and S are points drawn clockwise in order around O.
Angle SOR is 91° .
Angle POQ is 26° more than angle SOR.
Angle QOR is a right angle.
Four children have worked out the size of angle SOP.
Who is correct? Tick your answer.

Tom
 243°

Whitney
 153°

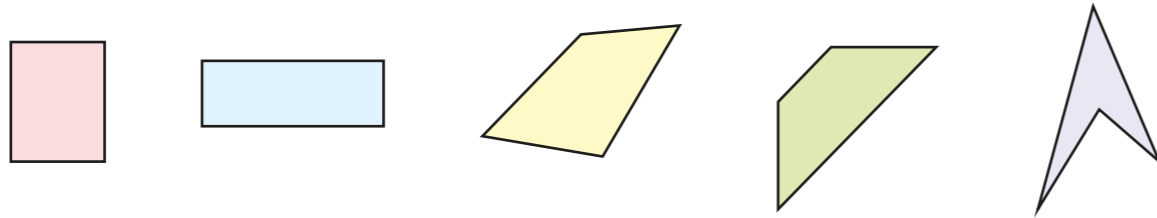
Esther
 152°

Amir
 62°

Explain the mistakes that the others have made.

Know and apply the sum of angles in a quadrilateral

1 Here are some quadrilaterals.



a) For each quadrilateral, choose one vertex and join it to each other vertex in the shape using straight lines.

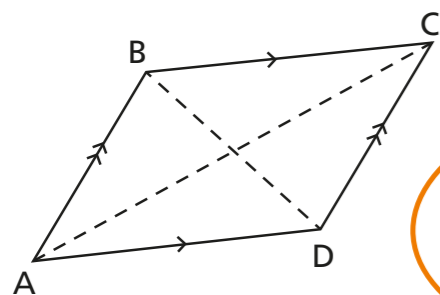
This will split each quadrilateral into triangles.

b) How many triangles has each quadrilateral been split into?

c) What is the sum of the angles in a triangle?

d) Complete the sentence.
Angles in a quadrilateral sum to

2 Jack is working out the sum of the interior angles of a parallelogram.



I have split the parallelogram into four triangles.
 $4 \times 180 = 720$, so the angles in a parallelogram sum to 720° .

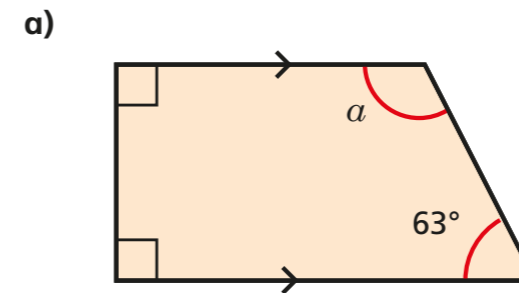


Do you agree with Jack? _____

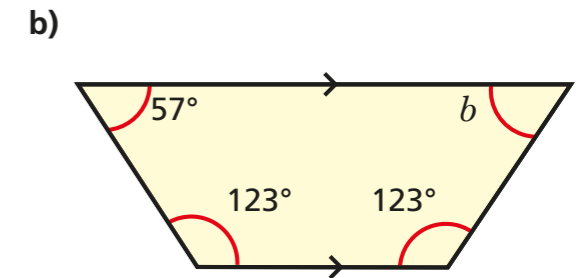
Explain your answer.



3 Work out the size of the unknown angle in each trapezium.



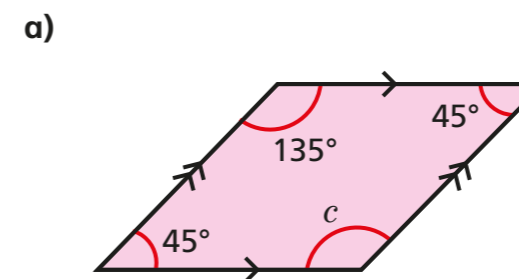
$a =$



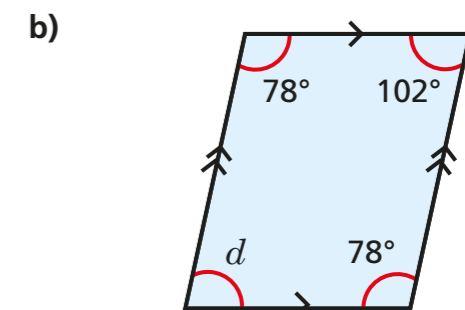
$b =$

c) What is the same and what is different about the trapeziums?

4 Work out the sizes of the unknown angles in the parallelograms.



$c =$

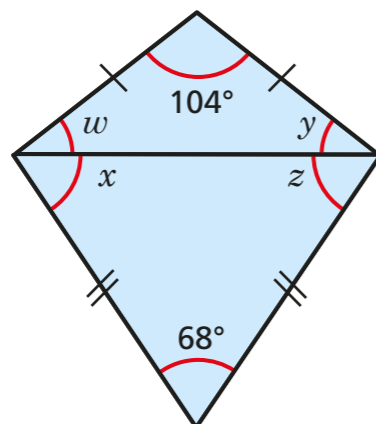


$d =$

c) What do you notice about opposite angles in a parallelogram?

5 Two isosceles triangles are joined to form a kite.

a) Work out the sizes of the unknown angles.



$w =$ $y =$ $x =$ $z =$

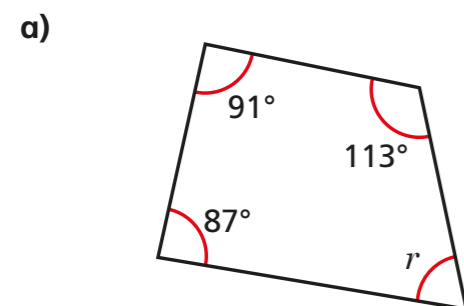
b) Work out $w + x$.

c) Work out $y + z$.

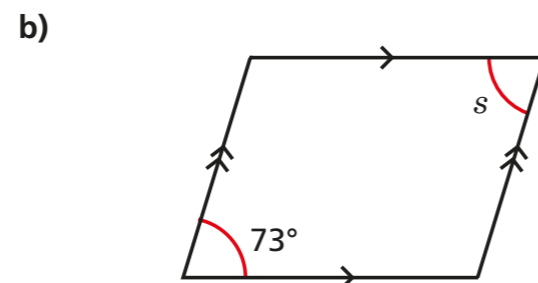
What do you notice? Talk about it with a partner.



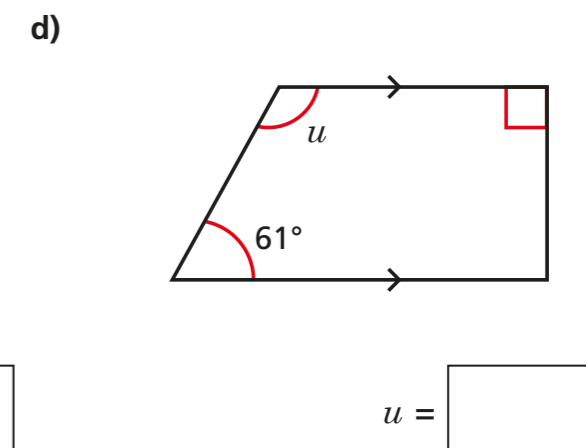
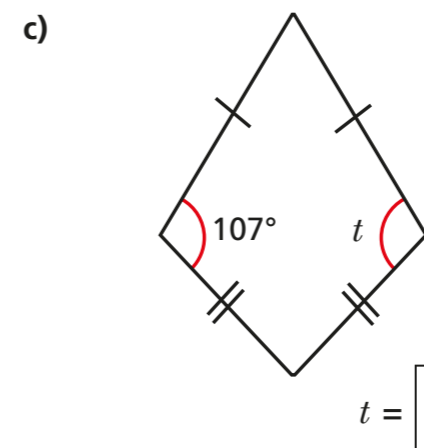
6 Work out the sizes of the unknown angles.



$r =$

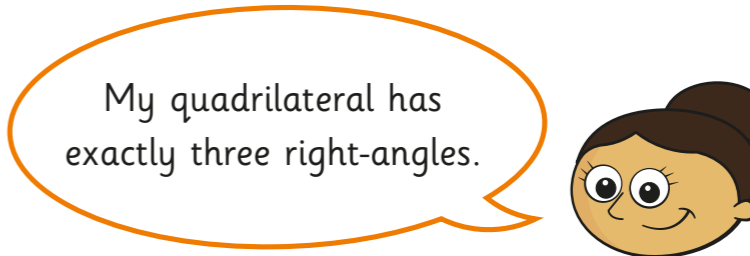


$s =$



Compare your reasoning with a partner.

7 Dora is drawing a quadrilateral.

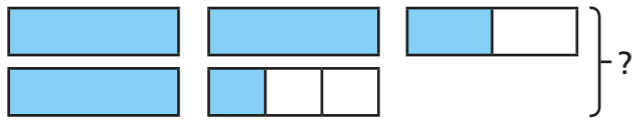


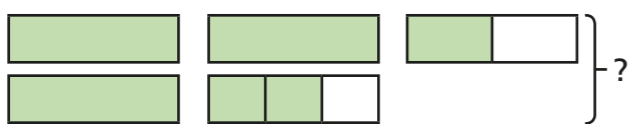
Is Dora's quadrilateral possible? _____

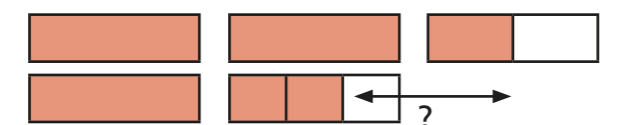
Explain your answer.

Add and subtract improper fractions and mixed numbers

1 Use the bar models to help you work out the calculations.


a)  $2\frac{1}{2} + 1\frac{1}{3} = \square$

b)  $2\frac{1}{2} + 1\frac{2}{3} = \square$

c)  $2\frac{1}{2} - 1\frac{2}{3} = \square$

d) Discuss your method with a partner.
Did you answer the question in the same way?

2 a) Work out $2\frac{2}{5} + 1\frac{1}{2}$ by converting each number to an improper fraction.
Use the diagrams to help you.

 \square

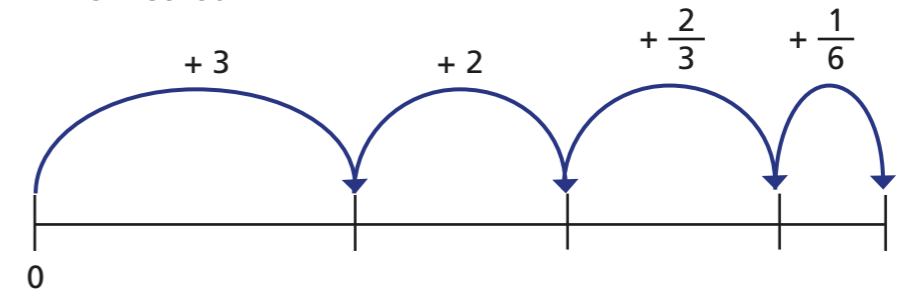
b) Work out $2\frac{2}{5} + 1\frac{1}{2}$ by first adding the wholes and then adding the fractions.
Use the diagrams to help you.

 \square

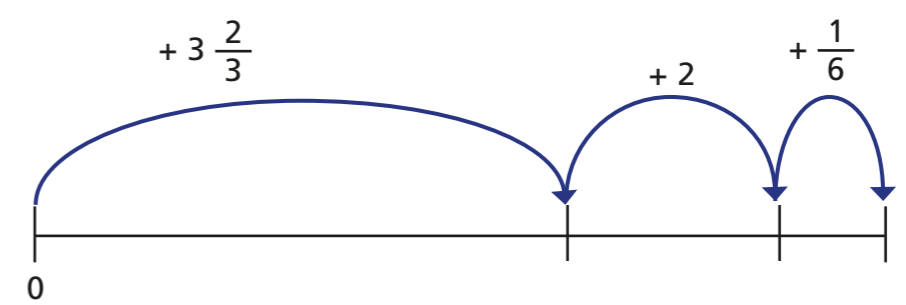
c) Which method did you prefer?

3 Amir and Eva are using a number line to work out $3\frac{2}{3} + 2\frac{1}{6}$

Amir's method



Eva's method



Fill in the missing numbers.
Whose method did you find easier? _____
Talk about it with a partner.

4 Use the fact that $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$ to work out the additions.

a) $1\frac{1}{2} + \frac{1}{4} = \square$ d) $17\frac{1}{2} + 11\frac{1}{4} = \square$

b) $2\frac{1}{2} + \frac{1}{4} = \square$ e) $2\frac{1}{2} + 3\frac{1}{4} + 2 = \square$

c) $5\frac{1}{2} + 2\frac{1}{4} = \square$ f) $7\frac{1}{4} + 3\frac{1}{2} = \square$

5 Work out the calculations.

a) $1\frac{3}{5} + 2\frac{1}{4} =$

c) $2\frac{1}{5} + \frac{7}{8} =$

b) $2\frac{3}{4} - 2\frac{1}{6} =$

d) $3\frac{3}{8} - 2\frac{7}{10} =$

6 Esther needs to cycle 18 km in three days.

The table shows how far she cycles on Monday and Tuesday.

How far does she need to cycle on Wednesday to meet her target?

| Day | Distance cycled (km) |
|---------|----------------------|
| Monday | $4\frac{1}{5}$ |
| Tuesday | $7\frac{2}{3}$ |

km

7 Work out the additions.

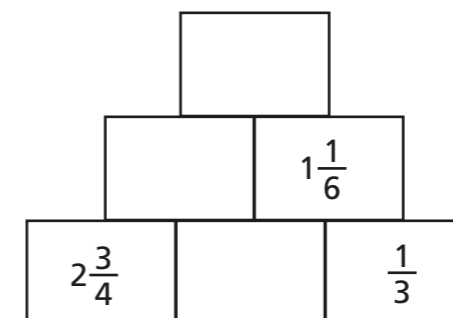
a) $\frac{11}{3} + 1\frac{3}{4} =$

b) $2\frac{1}{6} + \frac{15}{9} =$

8 In the fraction pyramid, the number in each box is the sum of the two numbers below.

Is the number in the top box greater than 5.25? _____

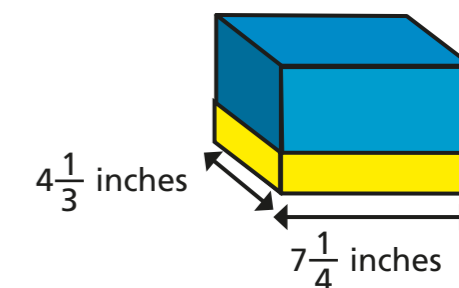
Show your working.



9 The diagram shows a cake box.

A 25-inch ribbon is used to wrap around the base of the cake box.

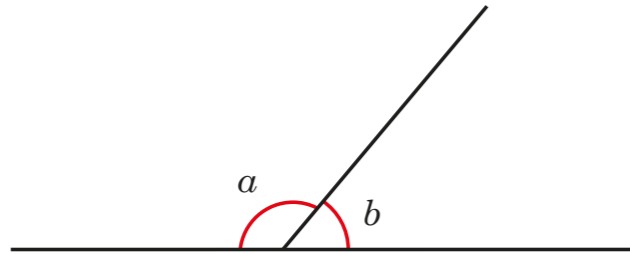
How much of the ribbon will be left over?



inches

Understand and use the sum of angles on a straight line

1 Two angles, a and b , are adjacent on a straight line.



a) Measure angles a and b .

$a =$

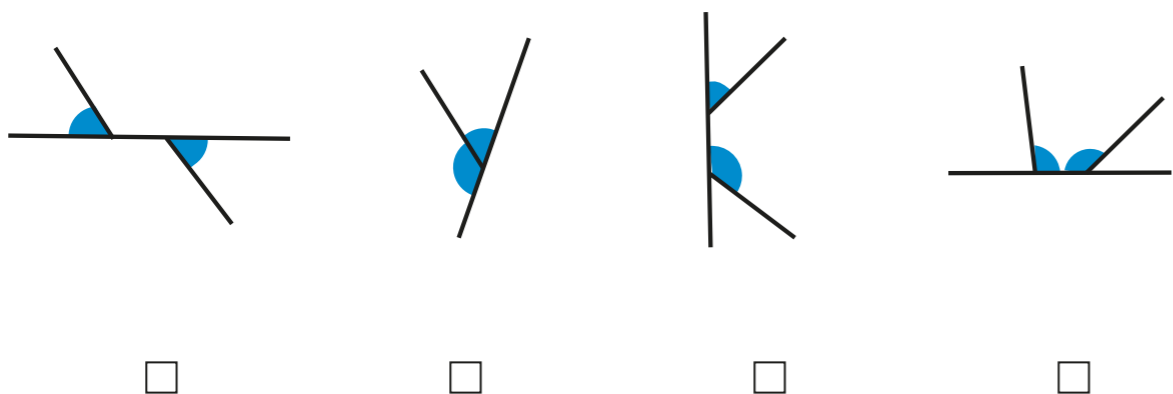
$b =$

b) What is the total of the two angles?

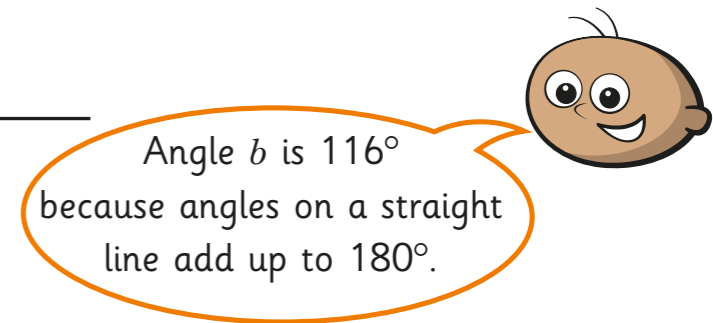
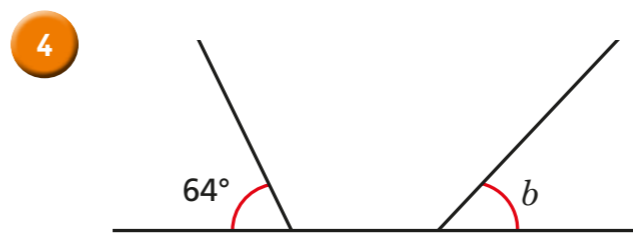
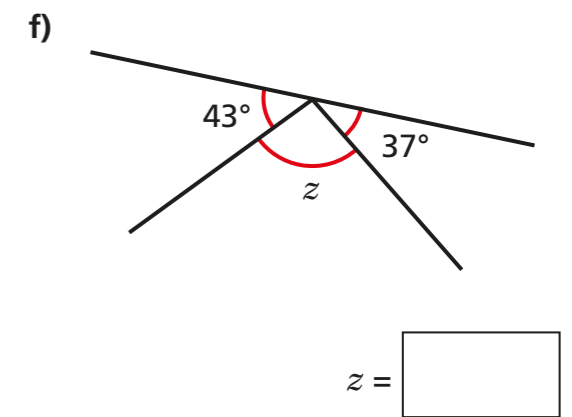
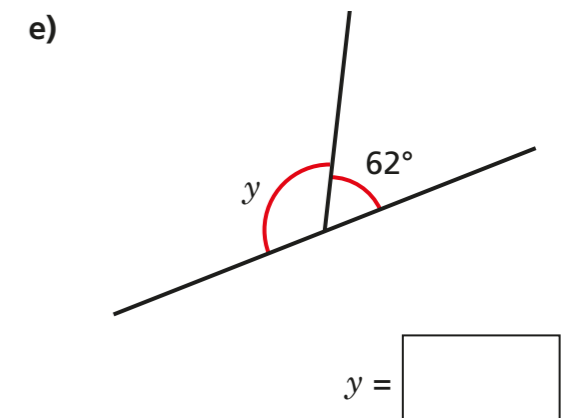
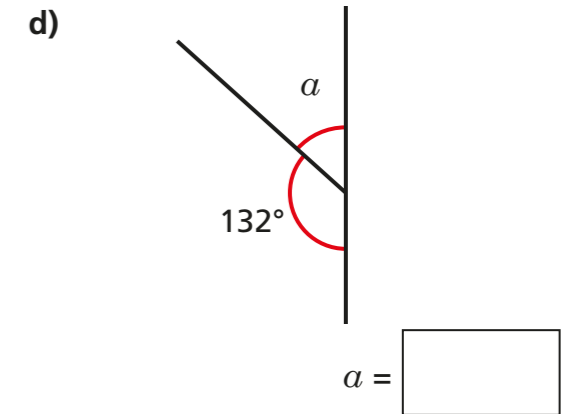
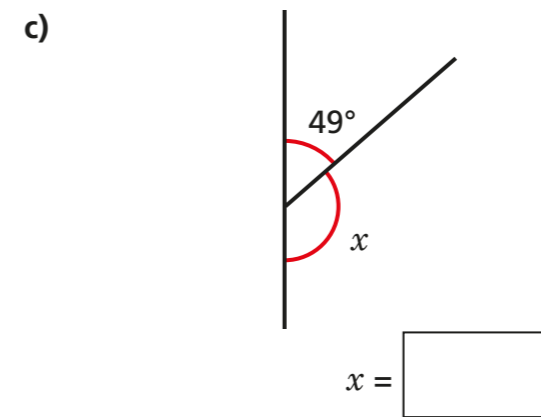
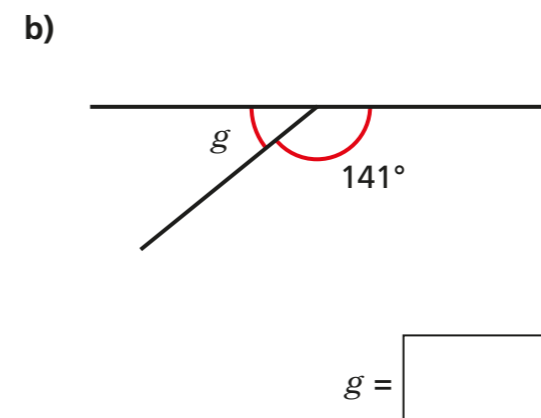
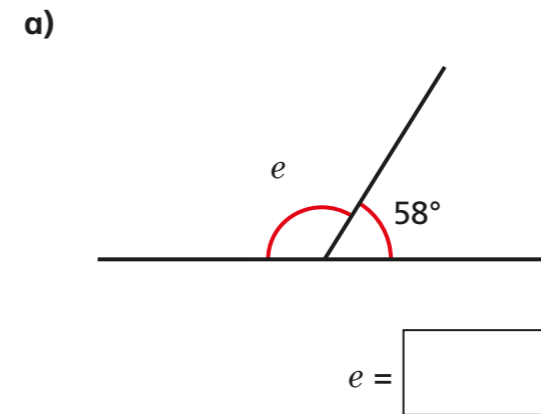
c) Complete the sentence.

Adjacent angles on a straight line _____

2 Tick the diagram that shows adjacent angles on a straight line.



3 Work out the unknown angles.

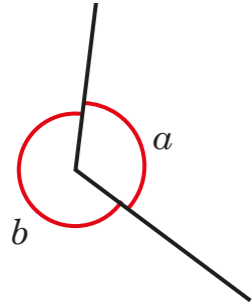


Do you agree with Tommy? _____

Explain your answer.

5 Use the information to work out the unknown angles.

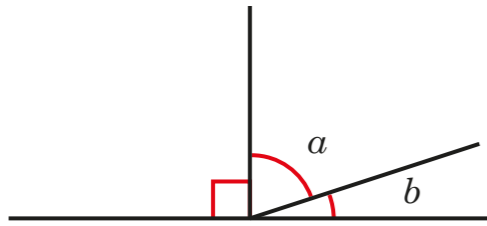
a) Angle a is half the size of angle b .



$a =$

$b =$

b) Angle a is four times the size of angle b .



$a =$

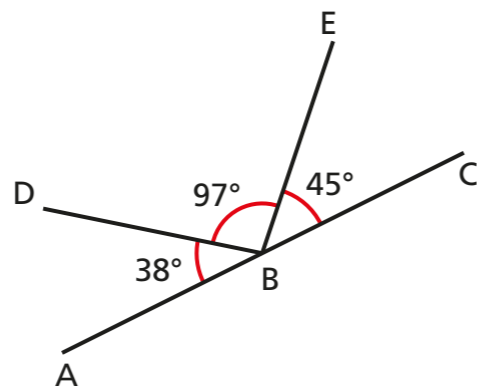
$b =$

6 a) Write the size of the given angles.

ABD

EBC

DBE

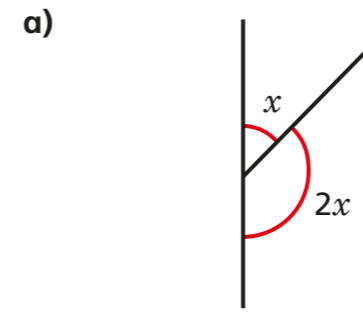


b) Is ABC a straight line? _____

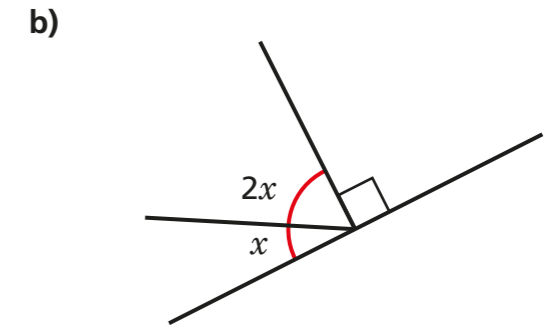
How do you know?



7 Work out the value of x .



$x =$

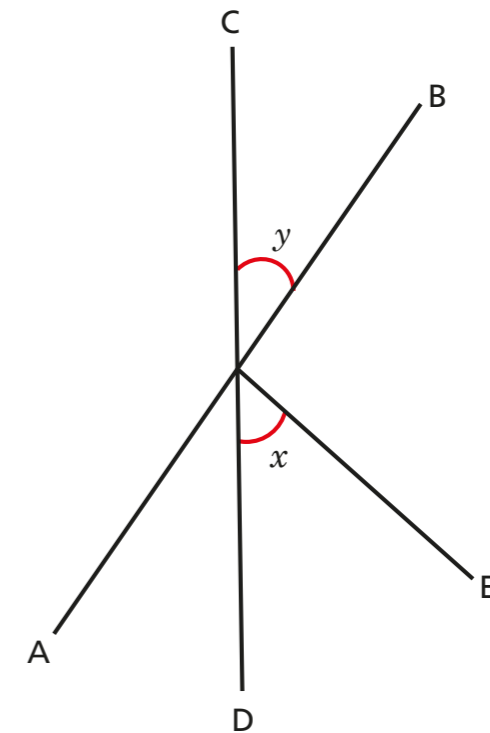


$x =$

Compare methods with a partner.

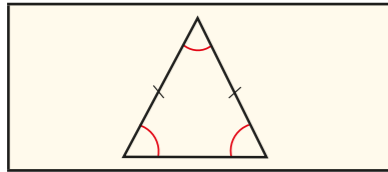
8 AB and CD are straight lines.

Write expressions for the sizes of any missing angles and label them on the diagram.

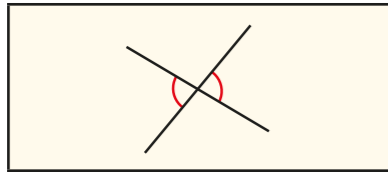


Solve angle problems using properties of triangles and quadrilaterals

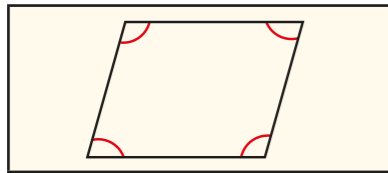
1 Match each diagram to the correct rule.



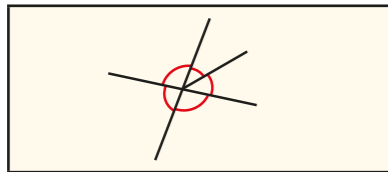
Angles on a straight line sum to 180°



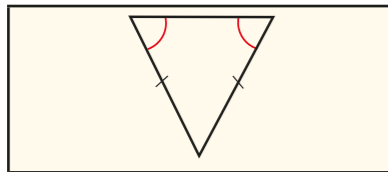
Angles around a point sum to 360°



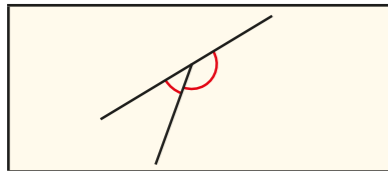
Angles in a triangle sum to 180°



In an isosceles triangle, two angles are equal

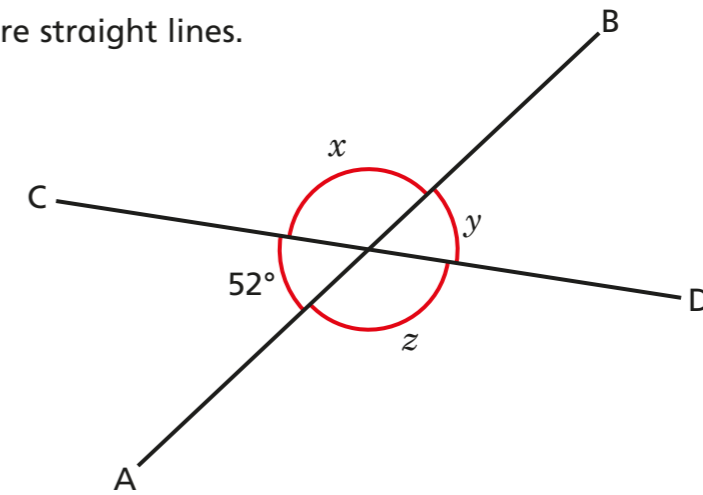


Vertically opposite angles are equal



Angles in a quadrilateral sum to 360°

2 AB and CD are straight lines.



Work out the sizes of angles x , y and z . Give reasons for your answers.

$x =$ because _____

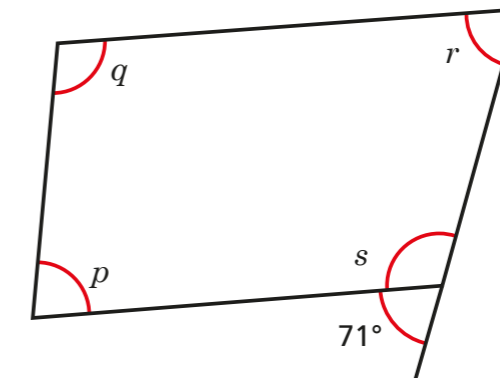
$y =$ because _____

$z =$ because _____

Compare your reasons with a partner.

Did you work out each angle in the same way?

3 Here is a quadrilateral.



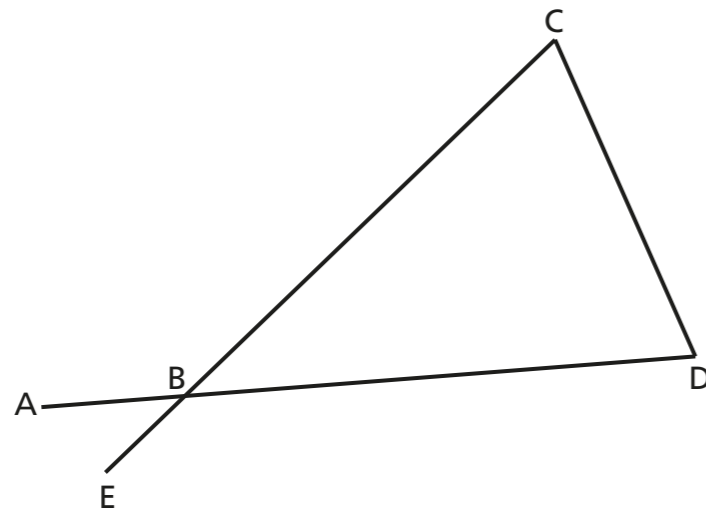
a) Work out the size of angle s . Give a reason for your answer.

$s =$ because _____

b) What is the sum of angles q , r and p ?

How do you know?

4



a) Angle ABE is 39° .

Label it on the diagram.

b) What is the size of angle ABC?

How do you know?

c) What is the size of angle CBD?

How do you know?

d) What is the sum of angles BCD and CDB?

How do you know?

e) Angle BCD is 70° . Is triangle BCD isosceles? _____

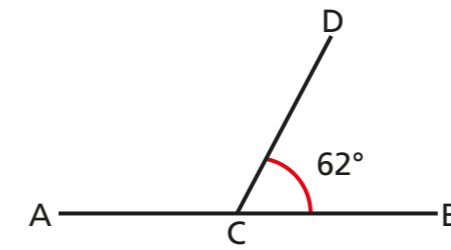
Discuss with a partner.

5

Complete the sentence for each diagram.

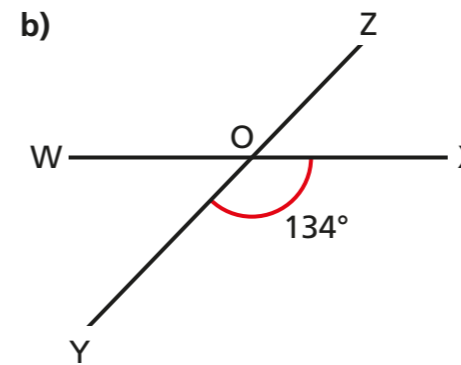
You must use correct mathematical vocabulary.

a)



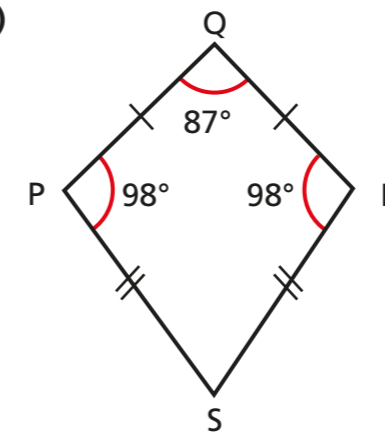
Angle ACD is because _____

b)



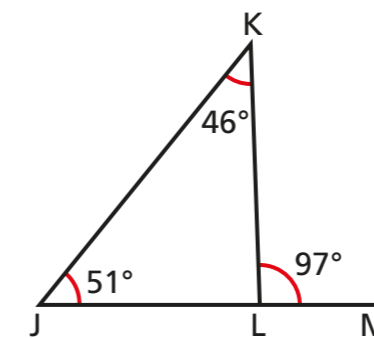
Angle is 134° because _____

c)



Angle PSR is because _____

d)



Angle is 83° because _____

_____ or



Use fractions in algebraic contexts

1 Work out the missing numbers.

a) $\frac{3}{8} + \square = \frac{5}{8}$

c) $3 + \square = 3\frac{3}{4}$

b) $\square + \frac{1}{4} = \frac{3}{4}$

d) $5 - \square = 4\frac{5}{6}$

2 Solve the equations.

a) $x + 3 = 5$

$x = \square$

c) $x - 3 = 5\frac{1}{3}$

$x = \square$

b) $x + 3 = 5\frac{1}{3}$

$x = \square$

d) $6\frac{1}{3} = x - 3$

$x = \square$

3 If $s = 2$, work out the value of these expressions.

Give your answers as mixed numbers.

a) $\frac{1}{s} + \frac{3}{s^2} = \square$

b) $\frac{7}{s^2} - \frac{2}{s} = \square$

c) $\frac{1}{s} + \frac{1}{s} + \frac{2}{s} + 5\frac{1}{7} = \square$



4 Substitute the values $g = 4$ and $h = 3$ into the expressions. Give your answers as improper fractions.

a) $g + \frac{1}{g} = \square$

$h + \frac{1}{h} = \square$

What do you notice about the answers?

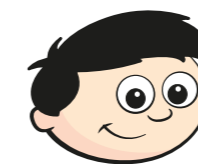
b) $1 + \frac{g}{h} = \square$

$1 + \frac{h}{g} = \square$

Which answer was greater? Will this be true for any values of g and h ?

c) $g - \frac{g}{h} = \square$

$h - \frac{h}{g} = \square$



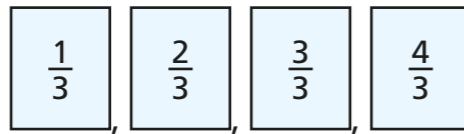
No values of g and h will ever give a negative answer.

Do you agree with Dexter? _____

Talk about it with a partner.



5 Here is the start of the sequence $\frac{n}{3}$



a) Write the next four terms of the sequence.

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

b) How many of the terms in part a) are whole numbers?

c) Which term will produce $5\frac{2}{3}$?

d) How many terms out of the first 100 terms will be integers?

e) How often will the sequence $\frac{2n}{3}$ produce integers?

Show your working.

f) How often will the sequence $\frac{3n}{n}$ produce integers?

Show your working.

6

Solve the equations.

a) $x + \frac{2}{3} - \frac{5}{6} = 0$

$x =$

b) $\frac{5}{2} = x + \frac{1}{5}$

$x =$

c) $\frac{16}{7} - \frac{12}{56} = x + 2\frac{1}{2}$

$x =$

d) $\frac{300}{7} + x - \frac{1}{3} = \frac{586}{14} + \frac{4}{6}$

$x =$



Add and subtract fractions with the same denominator

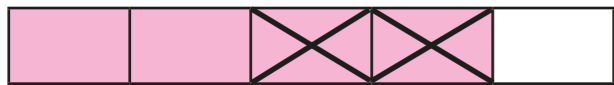
1 Complete the calculations for the representations.

a)



$$\frac{1}{5} + \frac{3}{5} = \frac{\square}{5}$$

b)



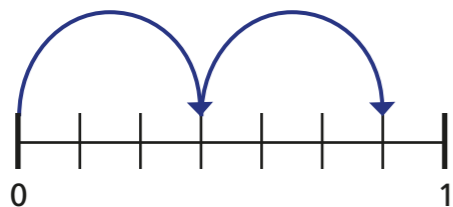
$$\frac{4}{5} - \frac{2}{5} = \frac{\square}{5}$$

c)



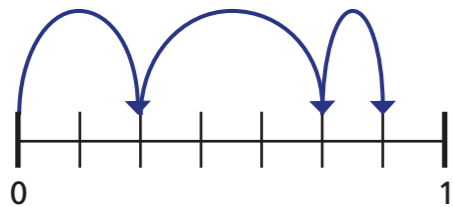
$$\frac{2}{\square} + \frac{4}{\square} = \frac{\square}{\square}$$

d)



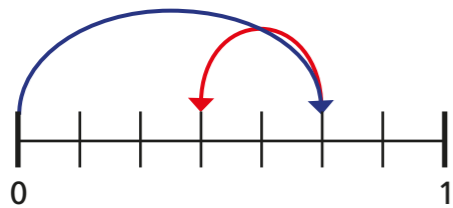
$$\frac{3}{7} + \frac{\square}{\square} = \frac{\square}{\square}$$

e)



$$\frac{2}{\square} + \frac{3}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$$

f)



$$\frac{\square}{7} - \frac{2}{7} = \frac{3}{7}$$



2 Work out the calculations.

a) $\frac{4}{9} + \frac{3}{9} = \square$

d) $\frac{8}{13} - \frac{3}{13} = \square$

b) $\frac{4}{9} + \frac{4}{9} = \square$

e) $\frac{8}{13} - \frac{3}{13} - \frac{5}{13} = \square$

c) $\frac{4}{9} + \frac{5}{9} = \square$

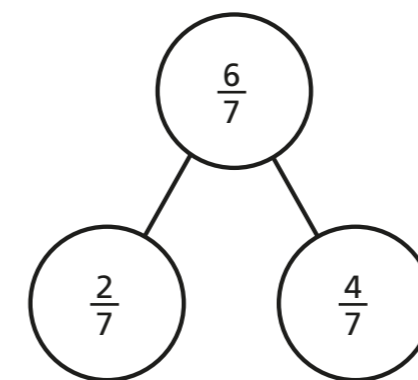
f) $\frac{12}{25} + \frac{5}{25} + \frac{8}{25} = \square$

Which two questions had the same answer? _____

Discuss with a partner why this happened.

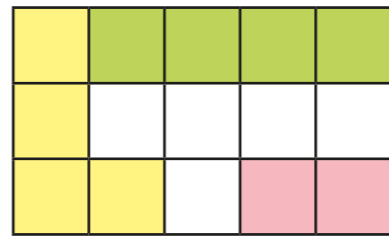
3 Here is a part-whole model.

a) Write all the calculations that the part-whole model represents.



b) How many other ways could you make $\frac{6}{7}$?

4 Jack and Nijah have shaded a grid.



a) Jack uses it to show that $\frac{4}{15} + \frac{4}{15} = \frac{8}{15}$

Where does Jack see this?

b) Nijah uses it to show that $\frac{15}{15} - \frac{4}{15} = \frac{11}{15}$

Where does Nijah see this?

c) How many fraction calculations can you find from the grid?

You could build the grid to help you discover more.

Write your calculations.

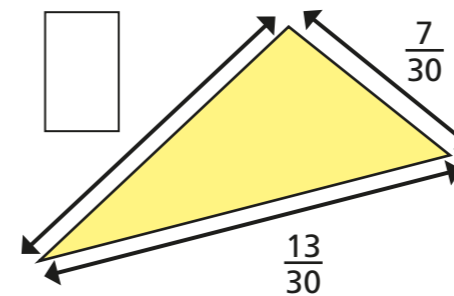
5 Find the missing terms in the linear sequences.

a) $0, \frac{2}{9}, \frac{4}{9}, \square, \frac{8}{9}$

c) $\frac{1}{25}, \square, \frac{9}{25}, \square$

b) $\frac{11}{12}, \frac{8}{12}, \square, \frac{2}{12}$

6 The perimeter of the triangle is $\frac{29}{30}$ units.



Find the missing length.

7 Work out the calculations.

a) $\frac{7}{10} + \frac{3}{10} = \square$

c) $\frac{3}{4} + \frac{1}{3} + \frac{1}{4} - \frac{2}{3} = \square$

b) $\frac{2}{3} - \frac{1}{3} + \frac{2}{5} + \frac{3}{5} = \square$

d) $\frac{17}{10} + \frac{2}{9} - \frac{7}{10} - \frac{2}{9} = \square$

8 Solve the equations.

a) $x + \frac{2}{11} = \frac{7}{11}$

$x = \square$

b) $y + \frac{7}{12} = 1$

$y = \square$


Add and subtract fractions from integers expressing the answer as a single fraction


1 What is the same about the answers to the three calculations?


$$\frac{3}{4} + \frac{1}{4} = \square \qquad \frac{2}{5} + \frac{3}{5} = \square \qquad \frac{1}{4} + \frac{1}{4} + \frac{2}{4} = \square$$

2 Use a bar model to explain why $\frac{3}{5} + \frac{2}{5}$ is equal to 1

3 Use the bar models to work out the subtractions.

a) $1 - \frac{1}{3} = \square$ 

b) $1 - \frac{2}{3} = \square$ 

c) $1 - \frac{3}{7} = \square$ 

4 Work out the subtractions.

a) $1 - \frac{1}{5} = \square$

e) $1 - \frac{7}{10} = \square$

b) $1 - \frac{2}{5} = \square$

f) $1 - \frac{9}{11} = \square$

c) $1 - \frac{3}{5} = \square$

g) $\square = 1 - \frac{11}{20}$

d) $1 - \frac{4}{5} = \square$

h) $1 - \frac{7}{8} = \square$

Compare answers with a partner.

Did you get the same answers? Discuss your methods.

5 Work out the additions.

a) $1 + \frac{2}{5} = \square$

b) $15 + \frac{1}{3} = \square$

$2 + \frac{2}{5} = \square$

$15 + \frac{2}{3} = \square$

$3 + \frac{2}{5} = \square$

$15 + \frac{3}{3} = \square$

$7 + \frac{2}{5} = \square$


c) Is the statement true or false? _____

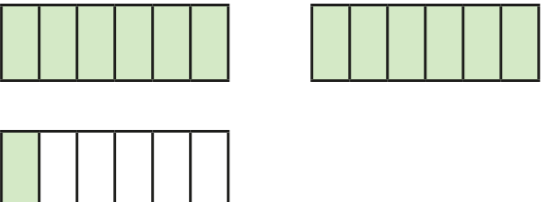
$$3 + \frac{5}{4} = 4\frac{1}{4}$$


Talk about it with a partner.



6 Write an addition and a subtraction for the models.

a)  $1 + \square \equiv 2 - \square$

b)  $\square + \square \equiv \square - \square$

c)  $\square + \square \equiv \square - \square$



7 a) Dora and Rosie are trying to work out $9 - \frac{4}{11}$
What mistakes have they made?

Dora

$$9 - \frac{4}{11} = \frac{5}{11}$$

Rosie

$$9 - \frac{4}{11} = \frac{99}{11} - \frac{4}{11}$$

$$\text{So } 9 - \frac{4}{11} = \frac{95}{0}$$

b) How would you calculate $9 - \frac{4}{11}$
Compare your method with a partner's.



8 Work out the subtractions.

a) $3 - \frac{2}{5} = \square$

c) $10 - \frac{3}{4} = \square$

b) $8 - \frac{2}{3} = \square$

d) $7 - \frac{10}{19} = \square$

9 There are 6 episodes in a series.
Brett has watched $\frac{3}{4}$ of the first episode.
Exactly how many episodes does he need to watch to finish the series?

10 Kim orders 3 pizzas. Each pizza is sliced into 8 slices.
Kim has 3 slices and Tom has 4
Exactly how much pizza is left?