Armadale Academy

S1 Maths Revision Booklet

March Assessment

How to use this booklet:

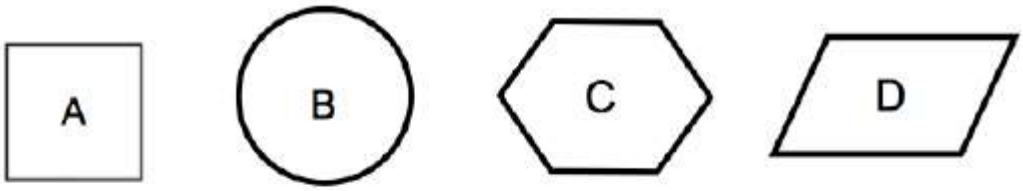
There are questions on each topic that has been covered so far in the S1 mathematics course.

Next to each set of questions is a QR code which you can scan with your phone.

These QR codes will take you videos with explanations of how to answer the questions if you are unsure.

2D Shape

Common 2D Shapes



Video 1 - Common 2D Shapes

(a) Which shape is a circle?

Shape..... **(1)**

(b) Which shape is a hexagon?

Shape..... **(1)**

(c) Which shape is a square?

Shape..... **(1)**

(d) Which shape is a parallelogram?

Shape..... **(1)**

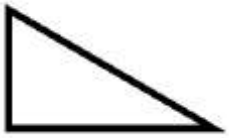
Types of triangles

Match each triangle to the correct name.

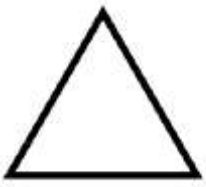
Right-angled triangle

Equilateral triangle

Video 2- Types of Triangle



Scalene triangle



Isosceles triangle

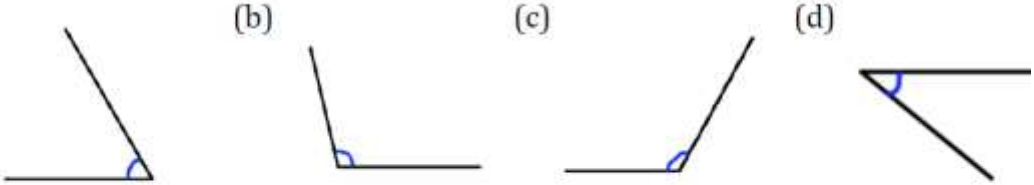
Angles

Types of angles

Video 3- Types of Angles

Question 1: Write down if each angle below is acute, obtuse or reflex.

(a) (b) (c) (d)



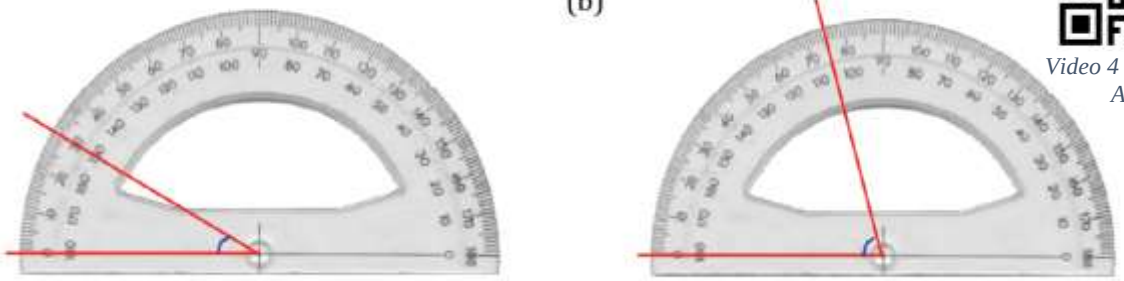
(e) (f) (g) (h)

Measuring angles

Video 4 - Measuring Angles

Question 1: Write down the size of each angle being measured

(a) (b)

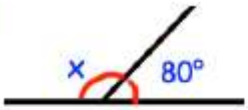


Calculating angles

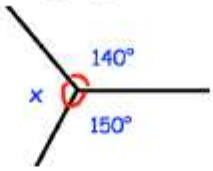
Video 5- Calculating Angles

Question 5: Calculate the size of the missing angles

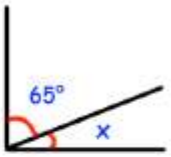
(a)



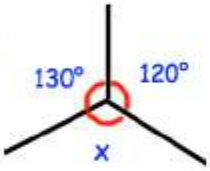
(b)



(c)

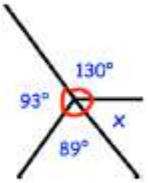


(d)

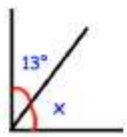


(e)

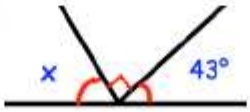
(f)



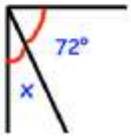
(g)



(h)



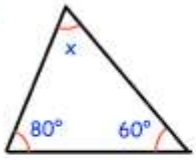
(i)



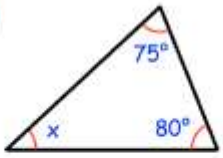
Angle sum of triangle

Question 1: Find the size of each missing angle.

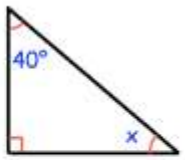
(a)



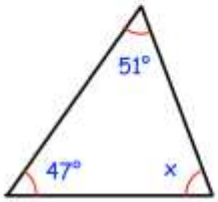
(b)



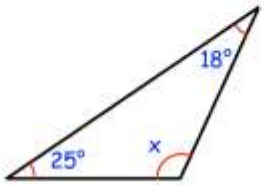
(c)



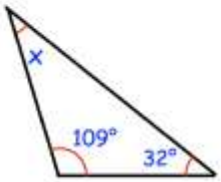
(d)



(e)



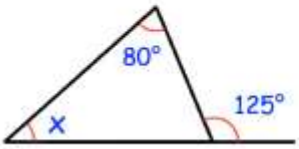
(f)



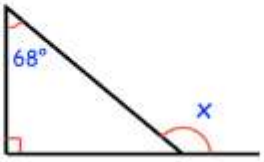
Video 6 - Angle Sum of Triangle

Question 4: Find the size of each missing angle.

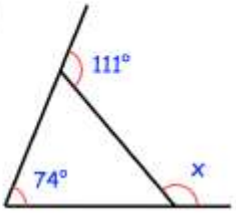
(a)



(b)



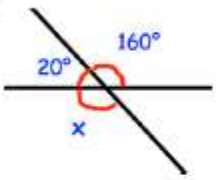
(c)



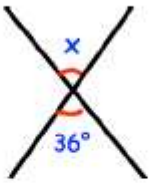
Vertically opposite angles

Question 4: Shown below are two straight lines that cross. Calculate the size of the missing angles

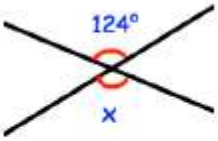
(a)



(b)

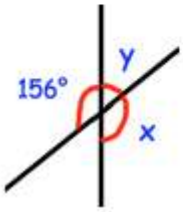


(c)

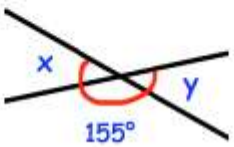


Video 7- Vertically Opposite Angles

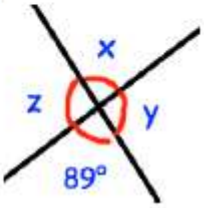
(d)



(e)



(f)

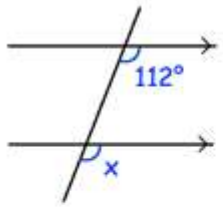


Corresponding and Alternate Angles

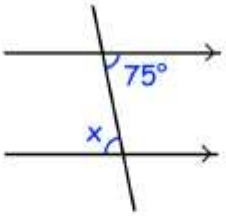
Video 8 - Corresponding and Alternate Angles

Question 1: Write down the sizes of the lettered angles.

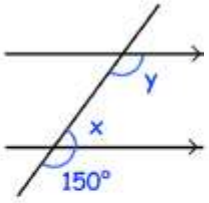
(a)



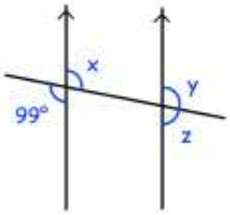
(b)



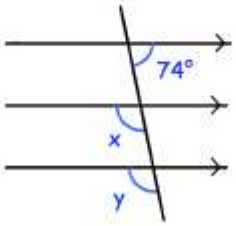
(c)



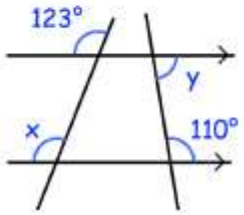
(d)



(e)



(f)



Properties of Quadrilaterals

Question 1: Draw the following quadrilaterals

(a) A kite (b) A rectangle (c) A square (d) A parallelogram

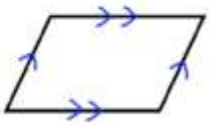
(e) A trapezium (f) A rhombus

Video 9 - Properties of Quadrilaterals

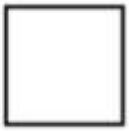
Question 2: Name each of the shapes below

(a)

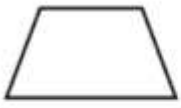
(b)



(c)



(d)



(e)

(f)

Question 3: Draw all lines of symmetry on the quadrilaterals you have drawn in Question 1.

Length & Area

Units of length

Question 1: Convert the following lengths into centimetres (cm)

(a) 4 m (b) 9 m (c) 12 m (d) 59 m

Video 10 - Units of Length

Question 2: Convert the following lengths into metres (m)

(a) 300 cm (b) 700 cm (c) 900 cm (d) 1400 cm

Question 3: Convert the following lengths into centimetres (cm)

(a) 60 mm (b) 30 mm (c) 65 mm (d) 87 mm

Question 4: Convert the following lengths into millimetres (mm)

(a) 2 cm (b) 6 cm (c) 4.5 cm (d) 9.2 cm

Question 5: Convert the following lengths into metres (m)

(a) 4 km (b) 9 km (c) 13 km (d) 28 km

Question 6: Convert the following lengths into kilometres (km)

(a) 6000 m (b) 2000 m (c) 5500 m (d) 6400 m

Question 7: Convert the following lengths

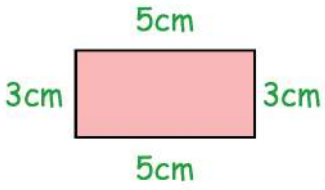
(a) 2 m into mm (b) 8 m into mm (c) 6500 mm into m

Perimeter

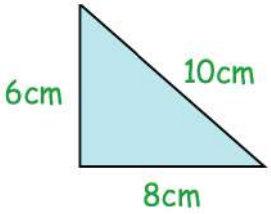
Video 11 - Perimeter

Question 1: Work out the perimeter of each shape below

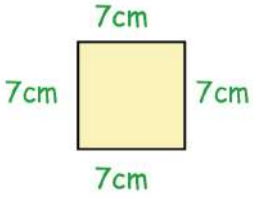
(a)



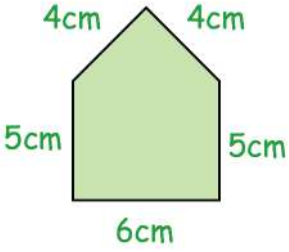
(b)



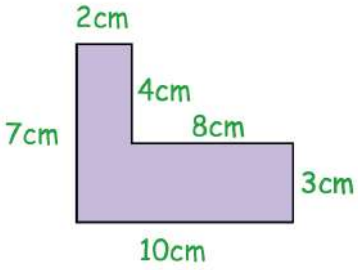
(c)



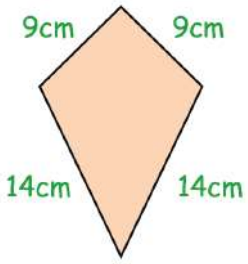
(d)



(e)

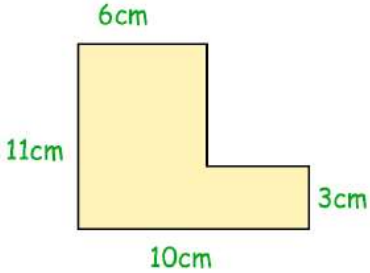


(f)

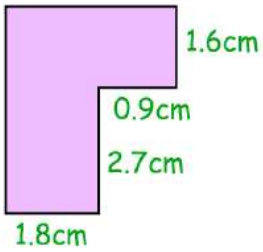


Question 7: Find the perimeter of each of these shapes

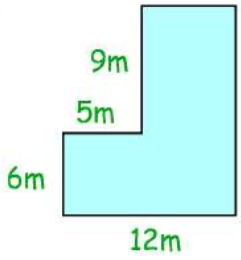
(a)



(b)



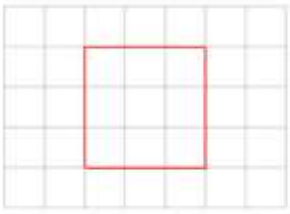
(c)



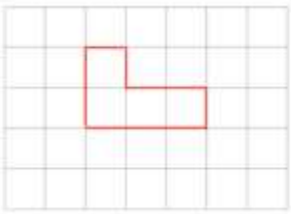
Area

Question 1: The following shapes are drawn on centimetre-squared paper. Find the area of each shape.

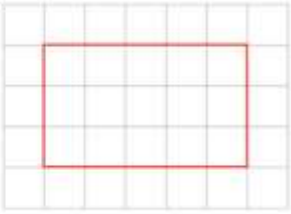
(a)



(b)



(c)

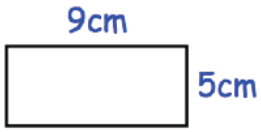


Video 32 - Area

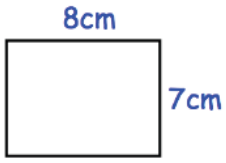
Area of a rectangle

Question 1: Calculate the area of each of these rectangles

(a)

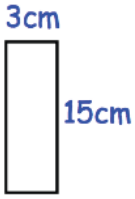


(b)



(c)

(d)

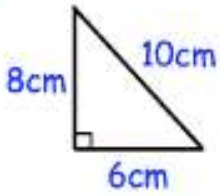


Video 13 - Area of a Rectangle

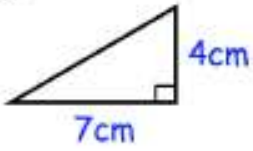
Area of a triangle

Question 1: Find the area of each triangle.

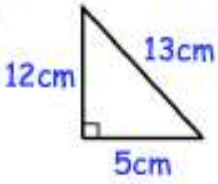
(a)



(b)



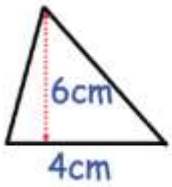
(c)



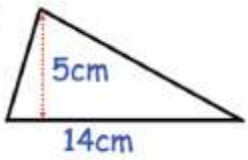
Video 14 - Area of a Rectangle

Question 2: Find the area of each triangle.

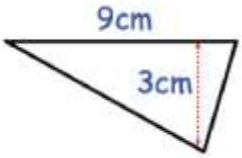
(a)



(b)



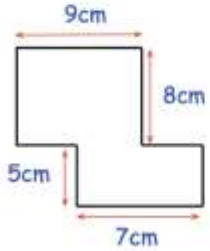
(c)



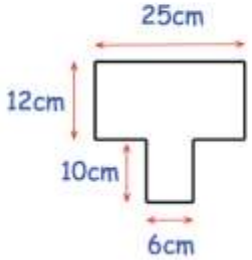
Composite Areas

Question 1: Work out the area of each of these shapes.

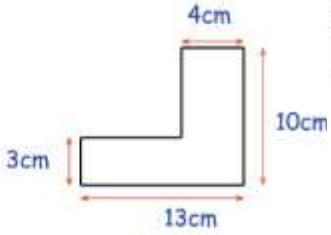
(a)



(b)



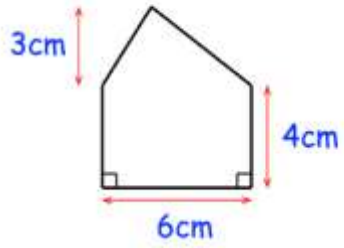
(c)



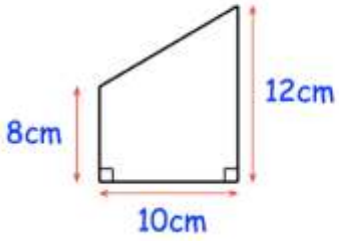
Video 4 - Composite Areas

Question 3: Work out the area of each of these shapes.

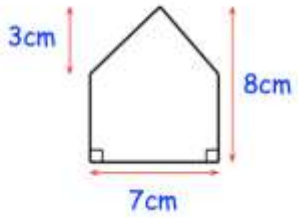
(a)



(b)



(c)

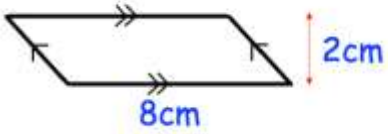


More Areas

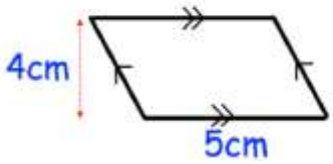
Parallelogram

Question 2: Work out the area of each of the parallelograms below. Include suitable units.

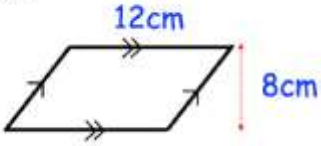
(a)



(b)



(c)

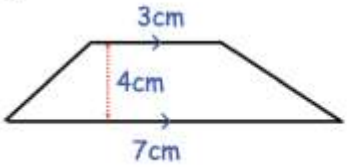


Video 16 - Parallelogram

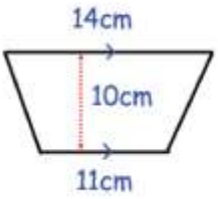
Trapezium

Question 2: Find the area of each trapezium.

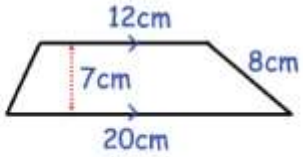
(a)



(b)



(c)



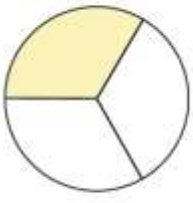
Video 5 - Trapezium

Fractions

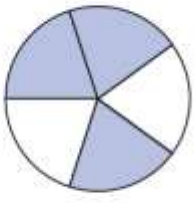
Understanding fractions

Question 3: Write down the fraction of each shape that is shaded.

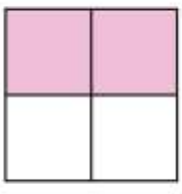
(a)



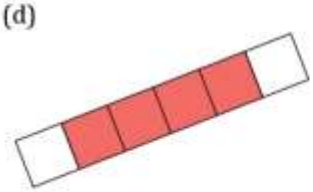
(b)



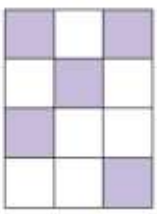
(c)



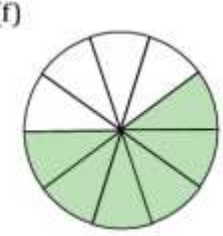
(d)



(e)



(f)



Equivalent fractions

Video 6 - Equivalent Fractions

Question 1: Find the missing numbers

(a) $\frac{2}{3} = \frac{}{6}$ (b) $\frac{1}{5} = \frac{}{20}$ (c) $\frac{3}{4} = \frac{}{12}$ (d) $\frac{5}{7} = \frac{10}{}$

Question 2: Find the missing numbers

(a) $\frac{6}{7} = \frac{42}{}$ (b) $\frac{9}{20} = \frac{63}{}$ (c) $\frac{5}{12} = \frac{35}{}$ (d) $\frac{7}{8} = \frac{}{64}$

Simplifying fractions

Video 7 - Simplifying Fractions

Question 1: Simplify fully

(a) $\frac{2}{4}$ (b) $\frac{6}{9}$ (c) $\frac{6}{8}$ (d) $\frac{5}{15}$ (e) $\frac{4}{6}$ (f) $\frac{9}{12}$

Question 2: Cancel down each fraction to its simplest form

(a) $\frac{14}{35}$ (b) $\frac{8}{64}$ (c) $\frac{18}{24}$ (d) $\frac{75}{100}$ (e) $\frac{24}{80}$ (f) $\frac{6}{42}$

Fraction of a quantity

Video 8 - Fraction of a Quantity

Question 1: Work out each of the following

(a) $\frac{1}{2}$ of 10 (b) $\frac{1}{3}$ of 18 (c) $\frac{1}{5}$ of 20 (d) $\frac{1}{4}$ of 24

Question 2: Work out each of the following

(a) $\frac{2}{3}$ of 15 (b) $\frac{7}{10}$ of 20 (c) $\frac{2}{5}$ of 30 (d) $\frac{3}{4}$ of 32

Question 3: Work out each of the following. Include suitable units.

(a) $\frac{1}{3}$ of £21 (b) $\frac{3}{4}$ of 100kg (c) $\frac{2}{3}$ of 27cm (d) $\frac{7}{8}$ of 32 seconds

Question 7: The attendance at a Sheffield United match is 15,291

$\frac{2}{9}$ of the crowd are children.

How many adults attended the match?

Converting from Mixed Numbers to Improper Fractions (top heavy) and vice versa

Video 9 - Mixed Numbers and Improper Fractions

Question 1: Change these improper fractions into mixed numbers

(a) $\frac{7}{3}$ (b) $\frac{7}{5}$ (c) $\frac{5}{2}$ (d) $\frac{8}{7}$ (e) $\frac{5}{3}$

(f) $\frac{10}{3}$ (g) $\frac{23}{2}$ (h) $\frac{11}{4}$ (i) $\frac{11}{8}$ (j) $\frac{9}{4}$

Question 2: Change these mixed numbers into improper fractions

(a) $2\frac{1}{5}$ (b) $3\frac{1}{2}$ (c) $1\frac{3}{4}$ (d) $3\frac{2}{3}$ (e) $1\frac{2}{5}$

(f) $2\frac{4}{7}$ (g) $1\frac{1}{3}$ (h) $2\frac{3}{10}$ (i) $4\frac{3}{4}$ (j) $1\frac{7}{12}$

Add and Subtract Fractions

Video 10 - Add/Subtract Simple Fractions

Question 2: Work out the following additions

(a) $\frac{1}{5}+\frac{1}{5}$ (b) $\frac{3}{11}+\frac{2}{11}$ (c) $\frac{1}{9}+\frac{7}{9}$ (d) $\frac{3}{7}+\frac{3}{7}$

Question 3: Work out the following subtractions

(a) $\frac{3}{5}-\frac{1}{5}$ (b) $\frac{6}{7}-\frac{2}{7}$ (c) $\frac{4}{5}-\frac{3}{5}$ (d) $\frac{7}{13}-\frac{1}{13}$

Question 2: Work out the following additions.
Give your answers as simplified fractions.
If necessary, give any answers as mixed numbers.

Video 11 - Add/Subtract more difficult Fractions

(a) $\frac{3}{4}+\frac{1}{2}$ (b) $\frac{5}{9}+\frac{2}{3}$ (c) $\frac{7}{10}+\frac{1}{3}$ (d) $\frac{4}{5}+\frac{3}{4}$

(e) $\frac{19}{20}+\frac{4}{5}$ (f) $\frac{5}{9}+\frac{13}{18}$ (g) $\frac{5}{12}+\frac{9}{10}$ (h) $\frac{4}{7}+\frac{7}{8}$

Multiply and Divide Fractions

Question 1: Work out each of the following multiplications.
Give each answer in its simplest form.

Video 12 - Multiplying Fractions

(a) $\frac{1}{2}\times\frac{1}{5}$ (b) $\frac{1}{2}\times\frac{3}{4}$ (c) $\frac{1}{4}\times\frac{3}{5}$ (d) $\frac{1}{3}\times\frac{1}{3}$

Question 3: Work out the following divisions.
Give your answers as simplified fractions.
If any answers are top heavy fractions, write as mixed numbers.

(a) $1\frac{2}{3}\times\frac{1}{4}$ (b) $\frac{2}{5}\times 1\frac{1}{4}$ (c) $\frac{3}{4}\times 1\frac{1}{2}$ (d) $2\frac{1}{2}\times\frac{7}{10}$

Question 1: Work out the following divisions.
Give your answers as simplified fractions.
If any answers are top heavy fractions, write as mixed numbers.

Video 13 - Dividing Fractions

(a) $\frac{1}{5}\div\frac{2}{3}$ (b) $\frac{3}{4}\div\frac{4}{5}$ (c) $\frac{1}{2}\div\frac{7}{8}$ (d) $\frac{2}{3}\div\frac{5}{6}$

Question 3: Work out the following divisions.
Give your answers as simplified fractions.
If any answers are top heavy fractions, write as mixed numbers.

(a) $\frac{2}{3}\div 1\frac{4}{5}$ (b) $1\frac{1}{2}\div 1\frac{9}{10}$ (c) $2\frac{3}{7}\div\frac{1}{2}$ (d) $2\frac{1}{3}\div 5\frac{1}{2}$

Tolerance

Video:

1. For each of the following write down the minimum and maximum sizes.
   (a) 15 ± 3cm
   (b) 22 ± 5kg
   (c) 100 ± 23cm
   (d) 150 ± 50mm
   (e) 120 ± 2.5cm
   (f) 1 ± 0.2mm

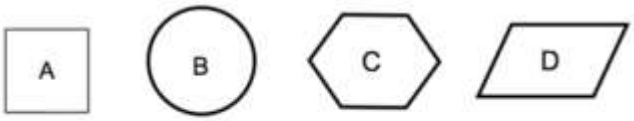
2. Write the following in tolerance form.
   (a) Max = 22cm, Min = 16cm
   (b) Max = 120kg, Min = 150kg
   (c) Max = 15cm, Min = 17cm
   (d) Min = 44mg, Max = 44.5mg
   (e) Max = 1.2cm, Min = 0.9cm
   (f) Min = 0.02mg, Max = 0.1mg

3. The following are the amount of liquid in bottles of soft drink that are allowed to be shipped out (ml).
   498 500 501 500 499 498 502 499 501 498
   Write down maximum and minimum allowed in tolerance form.

Answers

2D Shape

Common 2D Shapes



(a) Which shape is a circle? Shape B (1)

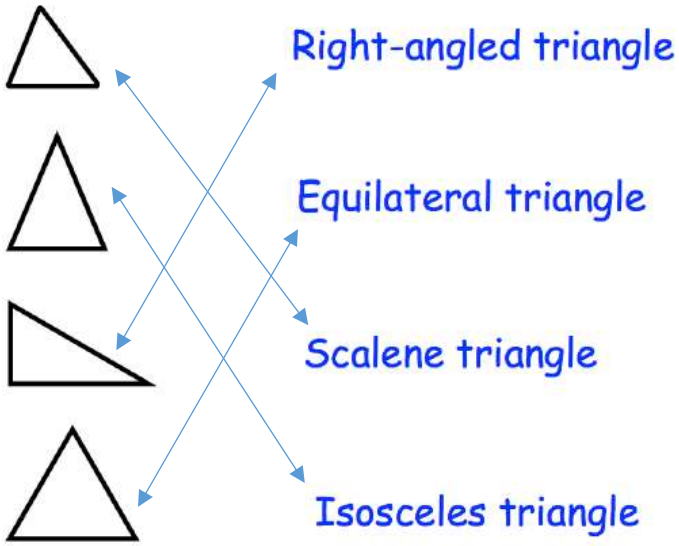
(b) Which shape is a hexagon? Shape C (1)

(c) Which shape is a square? Shape A (1)

(d) Which shape is a parallelogram? Shape D (1)

Types of triangles

Match each triangle to the correct name.



Angles

Types of angles

Question 1

(a) Acute	(b) Obtuse	(c) Obtuse	(d) Acute
(e) Reflex	(f) Acute	(g) Reflex	(h) Obtuse

Measuring angles

Question 1:

(a) 30° (b) 75°

Calculating angles

Question 5:

(a) 100°	(b) 70°	(c) 25°	(d) 110°
(e) 17°	(f) 48°	(g) 77°	(h) 47°
(i) 18°	(j) 120°	(k) 62°	(l) 117°

Angle sum of triangle

Question 1

(a) 40°	(b) 25°	(c) 50°
(d) 82°	(e) 137°	(f) 39°

Question 4

(a) 45°	(b) 158°	(c) 143°

Vertically opposite angles

Question 4:

(a) $x = 160°$ (b) $x = 36°$ (c) $x = 124°$

(d) $x = 156°$ and $y = 24°$ (e) $x = 25°$ and $y = 25°$

(f) $x = 89°$ $y = 91°$ and $z = 91°$

Corresponding and Alternate Angles

Question 1:

(a) x = 112°

(b) x = 75°

(c) x = 30° y = 150°

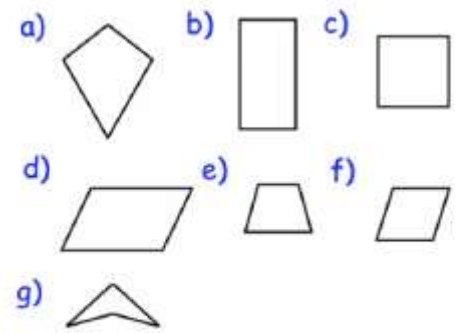
(d) x = 99° y = 99° z = 81°

(e) x = 106° y = 106°

(f) x = 123° y = 70°

Properties of Quadrilaterals

Workout – Question 1

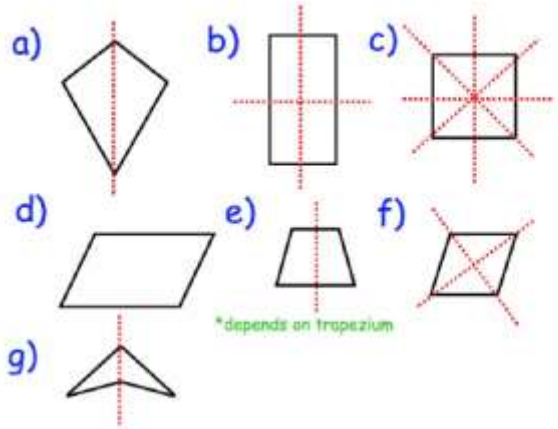


Question 2

(a) Kite (b) parallelogram (c) square (d) Trapezium

(e) Rectangle (f) Rhombus

Question 3:



Length & Area

Units of length

Question 1: Convert the following lengths into centimetres (cm)

(a) 4 m 400cm (b) 9 m 900cm (c) 12 m 1200cm (d) 59 m 5900cm

Question 2: Convert the following lengths into metres (m)

(a) 300 cm 3m (b) 700 cm 7m (c) 900 cm 9m (d) 1400 cm 14m

Question 3: Convert the following lengths into centimetres (cm)

(a) 60 mm 6cm (b) 30 mm 3cm (c) 65 mm 6.5cm (d) 87 mm 8.7cm

Question 4: Convert the following lengths into millimetres (mm)

(a) 2 cm 20 mm (b) 6 cm 60mm (c) 4.5 cm 45mm (d) 9.2 cm 92mm

Question 5: Convert the following lengths into metres (m)

(a) 4 km 4000m (b) 9 km 9000m (c) 13 km 13000m (d) 28 km 29000m

Question 6: Convert the following lengths into kilometres (km)

(a) 6000 m 6km (b) 2000 m 2km (c) 5500 m 5.5km (d) 6400 m 6.4km

Question 7: Convert the following lengths

(a) 2 m into mm 2000mm (b) 8 m into mm 8000mm (c) 6500 mm into m 6.5m

Perimeter

Question 1

(a) 16cm (b) 24cm (c) 28cm

(d) 24cm (e) 34cm (f) 46cm

Question 7

(a) 42cm (b) 14cm (c) 54m

Area

Question 1: The following shapes are drawn on centimetre-squared paper. Find the area of each shape.

(a) 9cm² (b) 4cm² (c) 15cm²

Area of a rectangle

Question 1

(a) 45cm² (b) 56cm² (c) 24cm² (d) 45cm²

Area of a triangle

Question 1

(a) 24cm² (b) 14cm² (c) 30cm²

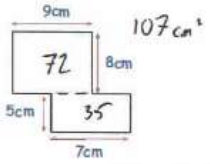
Question 2

(a) 12cm² (b) 35cm² (c) 13.5cm²

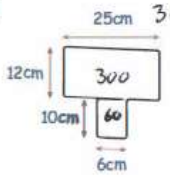
Composite Areas

Question 1: Work out the area of each of these shapes.

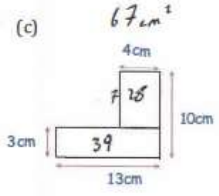
(a) 107cm²



(b) 360cm²

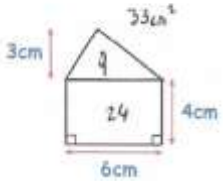


(c) 67cm²

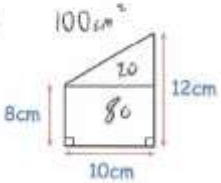


Question 3: Work out the area of each of these shapes.

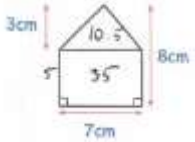
(a) 33cm²



(b) 100cm²



(c) 45.5cm²

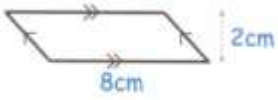


More Areas

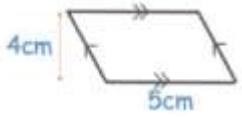
Parallelogram

Question 2: Work out the area of each of the parallelograms below. Include suitable units.

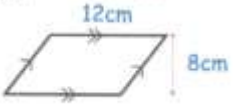
(a) 16cm²



(b) 20cm²



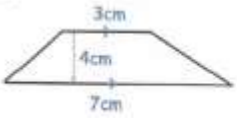
(c) 96cm²



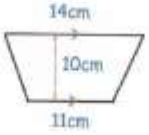
Trapezium

Question 2: Find the area of each trapezium.

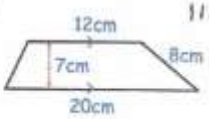
(a) 20cm²



(b) 125cm²



(c) 112cm²



Fractions

Understanding fractions

Question 3:

(a) $\frac{1}{3}$ (b) $\frac{3}{5}$ (c) $\frac{1}{2}$

(d) $\frac{2}{3}$ (e) $\frac{5}{12}$ (f) $\frac{3}{5}$

Equivalent fractions

Question 1: Find the missing numbers

(a) $\frac{2}{3} = \frac{4}{6}$ (b) $\frac{1}{5} = \frac{4}{20}$ (c) $\frac{3}{4} = \frac{9}{12}$ (d) $\frac{5}{7} = \frac{10}{14}$

Question 2: Find the missing numbers

(a) $\frac{6}{7} = \frac{42}{49}$ (b) $\frac{9}{20} = \frac{63}{140}$ (c) $\frac{5}{12} = \frac{35}{84}$ (d) $\frac{7}{8} = \frac{56}{64}$

Simplifying fractions

Question 1: Simplify fully

(a) $\frac{2}{4}$ $\frac{1}{2}$ (b) $\frac{6}{9}$ $\frac{2}{3}$ (c) $\frac{6}{8}$ $\frac{3}{4}$ (d) $\frac{5}{15}$ $\frac{1}{3}$ (e) $\frac{4}{6}$ $\frac{2}{3}$ (f) $\frac{9}{12}$ $\frac{3}{4}$

Question 2: Cancel down each fraction to its simplest form

(a) $\frac{14}{35}$ $\frac{2}{5}$ (b) $\frac{8}{64}$ $\frac{1}{8}$ (c) $\frac{18}{24}$ $\frac{3}{4}$ (d) $\frac{75}{100}$ $\frac{3}{4}$ (e) $\frac{24}{80}$ $\frac{3}{10}$ (f) $\frac{6}{42}$ $\frac{1}{7}$

Fraction of a quantity

Question 1:

(a) 5 (b) 6 (c) 4 (d) 6

Question 2:

(a) 10 (b) 14 (c) 12 (d) 24

Question 3:

(a) £7 (b) 75kg (c) 18cm (d) 28 seconds

Question 7: 11893

Converting from Mixed Numbers to Improper Fractions(top heavy) and vice versa

Question 1:

(a) $2\frac{1}{3}$ (b) $1\frac{2}{5}$ (c) $2\frac{1}{2}$ (d) $1\frac{1}{7}$ (e) $1\frac{2}{3}$

(f) $3\frac{1}{3}$ (g) $11\frac{1}{2}$ (h) $2\frac{3}{4}$ (i) $1\frac{3}{8}$ (j) $2\frac{1}{4}$

Question 2:

(a) $\frac{11}{5}$ (b) $\frac{7}{2}$ (c) $\frac{7}{4}$ (d) $\frac{11}{3}$ (e) $\frac{7}{5}$

(f) $\frac{18}{7}$ (g) $\frac{4}{3}$ (h) $\frac{23}{10}$ (i) $\frac{19}{4}$ (j) $\frac{19}{12}$

Add and Subtract Fractions

Question 2:

(a) $\frac{2}{5}$ (b) $\frac{5}{11}$ (c) $\frac{8}{9}$ (d) $\frac{6}{7}$

Question 3:

(a) $\frac{2}{5}$ (b) $\frac{4}{7}$ (c) $\frac{1}{5}$ (d) $\frac{6}{13}$

Question 2:

(a) $1\frac{1}{4}$ (b) $1\frac{2}{9}$ (c) $1\frac{1}{30}$ (d) $1\frac{11}{20}$

(e) $1\frac{3}{4}$ (f) $1\frac{5}{18}$ (g) $1\frac{19}{60}$ (h) $1\frac{25}{56}$

Multiplying and Dividing Fractions

Question 1:

(a) $\frac{1}{10}$ (b) $\frac{3}{8}$ (c) $\frac{3}{20}$ (d) $\frac{1}{9}$

Question 3:

(a) $\frac{5}{12}$ (b) $\frac{1}{2}$ (c) $1\frac{1}{8}$ (d) $1\frac{3}{4}$

Question 1:

(a) $\frac{3}{10}$ (b) $\frac{15}{16}$ (c) $\frac{4}{7}$ (d) $\frac{4}{5}$

Question 3:

(a) $\frac{10}{27}$ (b) $\frac{15}{19}$ (c) $4\frac{6}{7}$ (d) $\frac{14}{33}$

Tolerance

1a) Min = 12, Max = 18 b) Min = 17, Max = 27 c) Min = 77, Max = 123
d) Min = 100, Max = 200 e) Min = 117.5, Max = 122.5 f) Min = 0.8, Max = 1.2

2a) 19 $\pm$3 b) 135 $\pm$15 c) 16$\pm$1 d) 44.25 $\pm$ 0.25 e)1.05 $\pm$ 0.15 f) 0.06 $\pm$ 0.04
3)500 $\pm$ 2