

# Williamwood High School



## MATHEMATICS

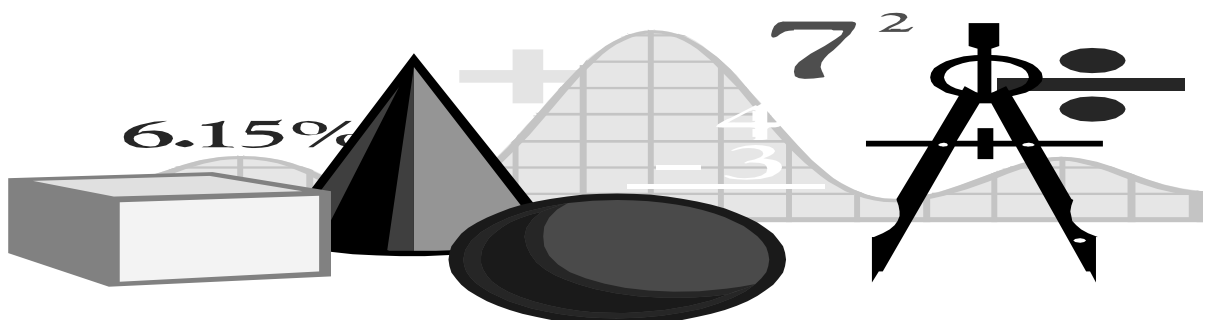
### BROAD GENERAL EDUCATION

# S3

### DAILY HOMEWORK BOOKLET

#### Notes:

1. CALCULATORS MAY ONLY BE USED WHEN INSTRUCTED
2. ATTEMPT ALL QUESTIONS
3. SHOW WORKING FOR ALL QUESTIONS



**Monday**

1. A jacket is reduced by 20% in a sale and now costs £14.97.  
How much did the jacket cost before the sale?
2. A flat is valued at £135,000. If it appreciates at a rate of 2.8% p.a. how much will it be worth after 5 years?  
Give your answer correct to 2 significant figures.
3. A garden weed increases in height by 12% every month.  
How long would it take for a 5cm weed to reach a height of 9cm?

**Tuesday**

1. A jacket is reduced by 15% in a sale and now costs £18.98.  
How much did the jacket cost before the sale?
2. A flat is valued at £155,000. If it appreciates at a rate of 3.8% p.a. how much will it be worth after 4 years?  
Give your answer correct to 2 significant figures.
3. A garden weed increases in height by 22% every month.  
How long would it take for a 6cm weed to reach a height of 10cm?

**Wednesday**

1. A jacket is reduced by 35% in a sale and now costs £22.49.  
How much did the jacket cost before the sale?
1. A flat is valued at £225,000. If it appreciates at a rate of 1.01% p.a. how much will it be worth after 15 years?  
Give your answer correct to 2 significant figures.
3. A garden weed increases in height by 9% every month.  
How long would it take for a 8cm weed to reach a height of 12cm?

**Thursday**

1. A jacket is reduced by 12.5% in a sale and now costs £80.50.  
How much did the jacket cost before the sale?
1. A flat is valued at £115,499. If it appreciates at a rate of 0.02% p.a. how much will it be worth in 8 years?  
Give your answer correct to 2 significant figures.
3. A garden weed increases in height by 7% every month.  
How long would it take for a 10cm weed to reach a height of 15cm?

**Monday**

1. After a pay rise, Isla's salary increased from £24,510 to £27,109. Express the increase as a percentage of her original salary.
2. A car bought for £17,499 depreciates at a rate of 8.22% p.a. for three years.  
How much is it now worth?  
Give your answer correct to 3 s.f.
3. Josh buys an Xbox game for £44.99 and sells it on eBay for £16.40. Express his loss as a percentage of the original price.

**Tuesday**

1. After a pay rise, Spencer's salary increased from £42,680 to £51,100. Express the increase as a percentage of her original salary.
2. A car bought for £22,560 depreciates at a rate of 10.34% p.a. for four years.  
How much is it now worth?  
Give your answer correct to 2 s.f.
3. Amy buys a keyboard for £125.50 and sells it on eBay for £72.25. Express his loss as a percentage of the original price.

**Wednesday**

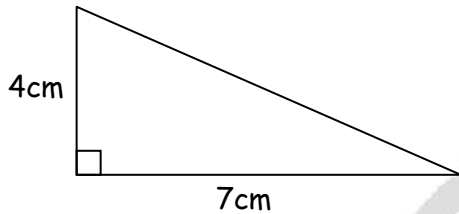
1. After a pay rise, Hayley's salary increased from £85,520 to £92,560. Express the increase as a percentage of her original salary.
2. A car bought for £25,689 depreciates at a rate of 12.82% p.a. for five years.  
How much is it now worth?  
Give your answer correct to 3 s.f.
3. Jamie buys an Ipad for £169.89 and sells it on eBay for £54.50. Express his loss as a percentage of the original price.

**Thursday**

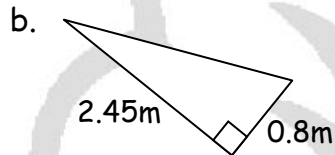
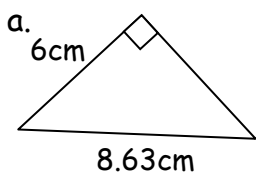
1. After a pay rise, Isla's salary increased from £91,760 to £101,200. Express the increase as a percentage of her original salary.
2. A car bought for £29,980 depreciates at a rate of 15.55% p.a. for three years.  
How much is it now worth?  
Give your answer correct to 2 s.f.
3. Paul buys an Ipad for £252.89 and sells it on eBay for £120.20. Express his loss as a percentage of the original price.

**Monday**

1. Find the missing side of the triangle shown:



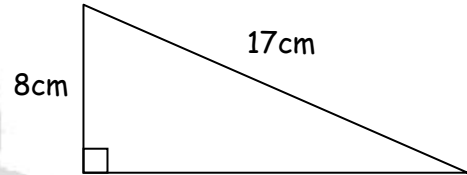
2. Find the missing side length



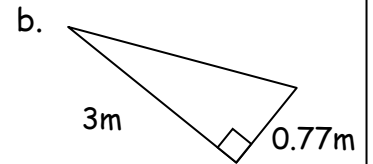
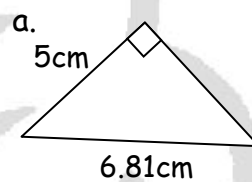
3. Find the distance between (2, 4) and (5, 8).

**Tuesday**

4. Find the missing side of the triangle shown:



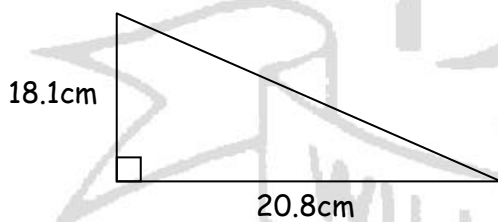
5. Find the missing side length



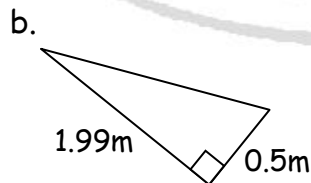
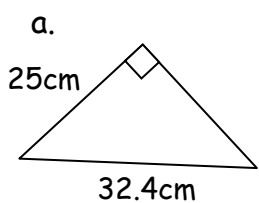
6. Find the distance between (-1, 9) and (3, -2).

**Wednesday**

2. Find the missing side of the triangle shown:



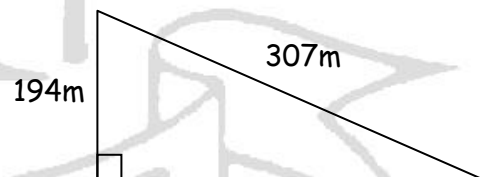
3. Find the missing side length



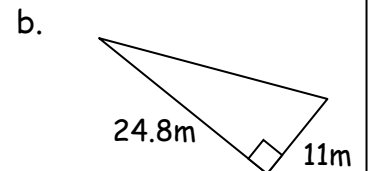
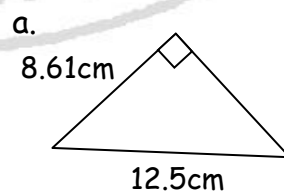
4. Find the distance between (5, 7) and (-7, 2).

**Thursday**

2. Find the missing side of the triangle shown:



3. Find the missing side length



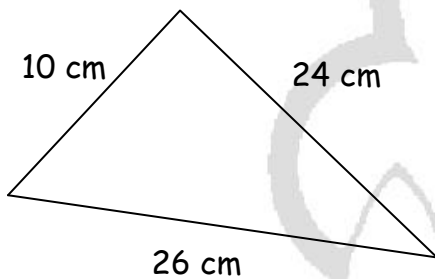
4. Find the distance between (-9, 5) and (-2, -7).

**Monday**

Calculate the distance between the following points:

1. (1, 2) and (4, 9)
2. (3, -2) and (7, 3)
3. (-10, -3) and (-2, 5)

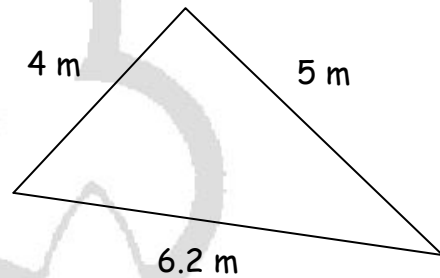
4. Is the triangle shown in the diagram below a right-angled triangle?

**Tuesday**

Calculate the distance between the following points:

1. (3, 1) and (6, 5)
2. (-1, 1) and (2, -8)
3. (-9, -7) and (3, -5)

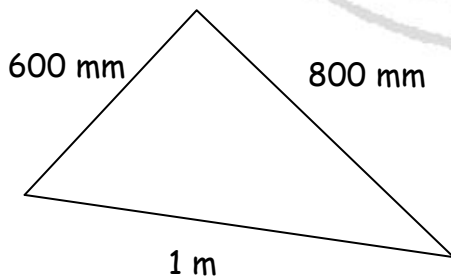
4. Is the triangle shown in the diagram below a right-angled triangle?

**Wednesday**

Calculate the distance between the following points:

1. (12, 3) and (5, 7)
2. (6, -2) and (1, -4)
3. (-17, 6) and (-2, 11)

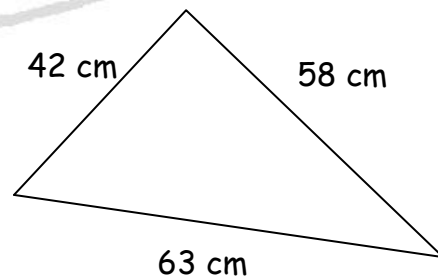
4. Is the triangle shown in the diagram below a right-angled triangle?

**Thursday**

Calculate the distance between the following points:

1. (0, 3) and (-6, 12)
2. (-11, -8) and (4, 18)
3. (-2, -1) and (-7, -12)

4. Is the triangle shown in the diagram below a right-angled triangle?



## S3 Daily Homework

## Week 5

### Monday

- Find the mean of the following numbers:
  - 7, 2, 5, 6, 9, 7
  - 15, 19, 23, 16, 17, 10
- For the following sets of data, find the 5 figure summary.
  - 3, 4, 7, 8, 8, 8, 10, 12, 13, 15, 19, 20
  - 21, 21, 24, 27, 29, 30, 30, 30, 30, 38, 40
  - 45, 28, 21, 34, 29, 19, 37, 29, 44, 37, 44, 26, 44, 17, 44, 49, 36, 44, 13, 22, 38, 44

### Tuesday

- Find the mean of the following numbers:
  - 12, 8, 4, 11, 10
  - 9, 7, 10, 6, 8, 12, 4, 8
- For the following sets of data, find the 5 figure summary.
  - 6, 6, 6, 8, 9, 10, 11, 11, 14, 15, 16, 18
  - 35, 35, 37, 38, 39, 39, 40, 41, 41, 41, 42
  - 17, 7, 11, 19, 21, 38, 29, 18, 6, 14, 38, 29, 28, 38, 31, 33, 38, 41, 45, 48

### Wednesday

- Find the mean of the following numbers:
  - 11, 9, 14, 7, 4
  - 114, 98, 106, 82
- For the following sets of data, find the 5 figure summary.
  - 9, 9, 10, 12, 13, 14, 14, 15, 17, 18
  - 56, 56, 57, 58, 59, 61, 61, 62, 63, 64
  - 7, 19, 6, 5, 17, 12, 21, 20, 14, 14, 11, 8, 17, 15, 15, 16, 12, 18, 19, 8, 7, 8, 8, 8,

### Thursday

- Find the mean of the following numbers:
  - 5, 9, 7, 5, 8, 8
  - 11, 17, 7, 9, 6, 3, 7, 11
- For the following sets of data, find the 5 figure summary.
  - 35, 35, 37, 37, 38, 39, 40, 41, 42, 44
  - 101, 101, 102, 103, 105, 106, 108, 108
  - 56, 58, 61, 69, 70, 65, 54, 57, 60, 66, 45, 49, 56, 51, 56, 90, 56, 56

**Monday**

- Find the mean, median, mode and Range of the following  
5, 8, 6, 7, 5, 1, 8, 7, 3, 4, 6, 6, 8, 5, 5
- The data below shows the heights (in cm) of pupils in a class.

132 121 134 128 140 119 134 131  
130 126 152 136 137 134 134 127

- Present this data in an ordered stem and leaf diagram.
- Find the five-figure summary for this data.

**Tuesday**

- Find the mean, median, mode and Range of the following  
5, 8, 9, 7, 5, 1, 8, 5, 3, 5, 6, 6, 8
- The data below shows the distances travelled (in km) by a delivery van

243 241 196 245 224 208 267 250  
239 248 217 266 234 245 277 245

- Present this data in an ordered stem and leaf diagram.
- Find the five-figure summary for this data.

**Wednesday**

- Find the mean, median, mode and Range of the following  
5, 8, 4, 7, 4, 4, 8, 7, 3, 4, 6, 6, 4, 5, 4
- The data below shows the engine sizes (in litres) of cars in a car park

1.8 1.6 0.9 2.4 3.6 1.8 1.6 1.0 1.8 1.2  
1.3 2.0 2.1 1.0 3.0 1.5 1.2 4.0 1.4 1.1  
1.2 2.2 1.8

- Present this data in an ordered stem and leaf diagram.
- Find the five-figure summary for this data.

**Thursday**

- Find the mean, median, mode and Range of the following  
15, 18, 16, 7, 15, 11, 18, 17, 13, 15
- The data below shows the weights of mobile phones sent for recycling (in g)

97 114 97 83 99 133 114 90 83 84  
92 80 133 114 92 79 114 98 114 93

- Present this data in an ordered stem and leaf diagram.
- Find the five-figure summary for this data.

**Monday**

Calculate the area and circumference of a circle with:

1. Radius 4cm
2. Radius 5cm
3. Diameter 12cm
4. Diameter 14cm

Find the area and perimeter of

5. A semi-circle with diameter 8cm
6. A semi-circle with radius 9cm

**Tuesday**

Calculate the area and circumference of a circle with:

1. Radius 6cm
2. Radius 7cm
3. Diameter 18cm
4. Diameter 22cm

Find the area and perimeter of

5. A semi-circle with diameter 20cm
6. A semi-circle with radius 11cm

**Wednesday**

Calculate the area and circumference of a circle with:

1. Radius 8cm
2. Radius 12cm
3. Diameter 26cm
4. Diameter 32cm

Find the area and perimeter of

5. A semi-circle with diameter 24cm
6. A semi-circle with radius 32cm

**Thursday****Thursday**

Calculate the area and circumference of a circle with:

1. Radius 5.2cm
2. Radius 9.3cm
3. Diameter 14.4cm
4. Diameter 36.8cm

Find the area and perimeter of

5. A semi-circle with diameter 50.6cm
6. A semi-circle with radius 60.4cm



**Monday**

Calculate the area and circumference of a circle with:

1. Radius 4.2cm
2. Radius 5.7cm
3. Diameter 12.3cm
4. Diameter 14.7cm

Find the area and perimeter of

5. A quarter-circle with diameter 8cm
6. A quarter-circle with radius 9cm

**Tuesday**

Calculate the area and circumference of a circle with:

1. Radius 8.1cm
2. Radius 3.2cm
3. Diameter 14.1cm
4. Diameter 16.07cm

Find the area and perimeter of

5. A quarter-circle with diameter 20cm
6. A quarter-circle with radius 11cm

**Wednesday**

Calculate the area and circumference of a circle with:

1. Radius 8.9cm
2. Radius 12.34cm
3. Diameter 26.11cm
4. Diameter 32.16cm

Find the area and perimeter of

5. A quarter-circle with diameter 24cm
6. A quarter-circle with radius 32cm

**Thursday**

Calculate the area and circumference of a circle with:

1. Radius 7.97cm
2. Radius 1.11cm
3. Diameter 3.67cm
4. Diameter 79.46cm

Find the area and perimeter of

5. A quarter-circle with diameter 50.6cm
6. A quarter-circle with radius 60.4cm

**Monday**

1. Find the gradient of the straight line joining:
  - a. (2, 5) and (6, 9)
  - b. (1, 4) and (7, 2)
  - c. (-2, 5) and (7, -9)
  - d. (4, -9) and (-3, -8)
2. Find the gradient and the coordinates of the y-intercept for each line below
  - a.  $y = 4x - 5$
  - b.  $3y = 9x - 12$
  - c.  $2y - 3x = 9$
  - d.  $4x - 2y + 7 = 0$

**Tuesday**

1. Find the gradient of the straight line joining:
  - a. (1, 8) and (3, 10)
  - b. (2, 0) and (5, 9)
  - c. (-4, 6) and (5, -12)
  - d. (1, -6) and (-5, -5)
2. Find the gradient and the coordinates of the y-intercept for each line below
  - a.  $y = 3x - 8$
  - b.  $5y = 18x - 10$
  - c.  $3y - 4x = 12$
  - d.  $6x - 3y + 15 = 0$

**Wednesday**

1. Find the gradient of the straight line joining:
  - a. (1, 0) and (12, 7)
  - b. (2, 7) and (14, 4)
  - c. (-5, 2) and (9, -1)
  - d. (-6, -10) and (-1, 0)
2. Find the gradient and the coordinates of the y-intercept for each line below
  - a.  $y = 10x - 13$
  - b.  $4y = 28x - 14$
  - c.  $5y - 7x = 15$
  - d.  $7x - 6y + 1 = 0$

**Thursday**

1. Find the gradient of the straight line joining:
  - a. (1, 6) and (10, 8)
  - b. (-2, 9) and (4, 14)
  - c. (-6, 8) and (10, -1)
  - d. (-6, -1) and (-1, -12)
2. Find the gradient and the coordinates of the y-intercept for each line below
  - a.  $y = 6x - 1$
  - b.  $4y = 10x - 25$
  - c.  $8y - 4x = 12$
  - d.  $7x - 2y + 16 = 0$

**Monday**

- Find the equation of the straight line joining the points
  - (0, 7) and (3, 9)
  - (5, -5) and (0, -1)
  - (-1, 3) and (1, 5)
  - (-2, -6) and (-8, 12)
- Sketch each of the following lines
  - $y = 4x - 3$
  - $4x - 3y = 6$
- Find the x and y-intercepts of each line in question 1.

**Tuesday**

- Find the equation of the straight line joining the points
  - (3, 4) and (5, 8)
  - (-3, 1) and (6, -8)
  - (5, -2) and (3, 1)
  - (-3, -1) and (2, 2)
- Sketch each of the following lines
  - $y = 2x - 5$
  - $3x + 2y = -8$
- Find the x and y-intercepts of each line in question 1.

**Wednesday**

- Find the equation of the straight line joining the points
  - (0, 0) and (1, 2)
  - (-4, 0) and (1, -5)
  - (6, -6) and (-3, 3)
  - (4, 3) and (-1, 0)
- Sketch each of the following lines
  - $y = 4x + 7$
  - $5x - 2y = 12$
- Find the x and y-intercepts of each line in question 1.

**Thursday**

- Find the equation of the straight line joining the points
  - (-1, 1) and (5, 13)
  - (-2, -5) and (2, -7)
  - (8, 2) and (4, -10)
  - (-3, 4) and (-8, 4)
- Sketch each of the following lines
  - $y = 3x + 4$
  - $-4x + 3y = -9$
- Find the x and y-intercepts of each line in question 1.

**Monday**

1. It costs £6.30 to buy 9 packets of Minstrels.  
How much would it cost to buy 11 packets?
2. Steven buys 4 apples at a cost of £1.36.  
How much would he pay for 7 apples?
3. It takes 2 hours and 40 minutes for 6 janitors to set up the hall for exams.  
How long would it take for 8 janitors to do the same job?

**Tuesday**

1. It costs £5.80 to buy 5 packets of Maltesers.  
How much would it cost to buy 7 packets?
2. Sarah buys 6 tomatoes at a cost of £1.62.  
How much would she pay for 9 tomatoes?
3. A factory requires 42 machines to produce a given number of articles in 63 days. How many machines would be required to produce the same number of articles in 54 days?

**Wednesday**

1. It costs £2.25 to buy 15 packets of fun size Haribo sweets.  
How much would it cost to buy 11 packets?
2. Alice buys 9 potatoes at a cost of £3.51.  
How much would she pay for 8 potatoes?
3. A farmer has enough food to feed 20 animals in his cattle for 6 days. How long will the food last if there were 10 more animals in his cattle?

**Thursday**

1. It costs £5.94 to buy 18 Mars bars.  
How much would it cost to buy 16 Mars bars?
2. George buys 7 oranges at a cost of £6.23.  
How much would he pay for 4 oranges?
3. A contractor estimates that 3 workers could rewire Jasminder's house in 4 days. If, he uses 4 workers instead of three, how long should they take to complete the job?

**Monday**

1. A roofer can lay 40 roof tiles in 25 minutes.  
How long would it take him to lay 72 tiles?
2. A machine in a factory produces 150 paperclips in 20 seconds.  
How long would it take to produce 180 paper clips?
3. Josh reads at a rate of 250 words per minute and takes 6 hours to read a book.  
How long would it have taken him to read the same book at 150 words per minute?

**Tuesday**

1. John saves £136 in 8 weeks. How much would he have saved after 13 weeks?
2. It costs £225 to hire a car for 5 days. What is the cost for 3 days?
3. It takes 3 gardeners 5 hours to lay new turf. How long would it have taken 5 gardeners?

**Wednesday**

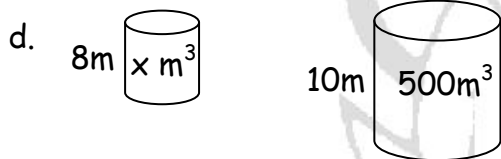
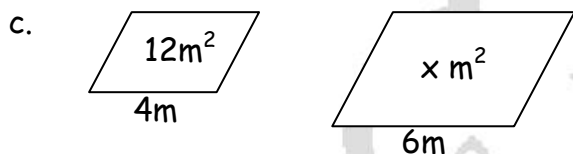
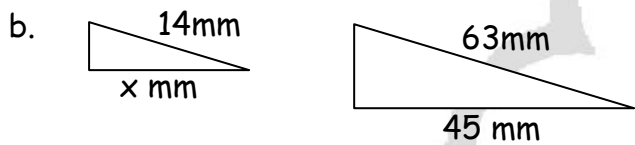
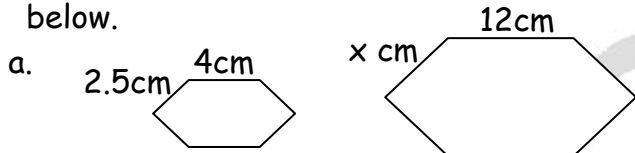
1. 12 apples cost £7.80. How much would 7 cost?
2. Builders buy 8 tonnes of chips for £696. How much would it cost them for 11 tonnes?
3. It takes 4 kitchen staff 3 hours to prepare all the ingredients for service. How long would it have taken 6 staff?

**Thursday**

1. 300l of compost costs £19.50. How much would 700l cost?
2. 40kg of dog food costs £28. How much would 25kg cost?
3. It took three friends 6 hours to build a greenhouse. How long would it have taken if three more people had helped?

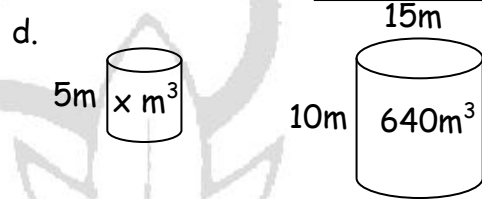
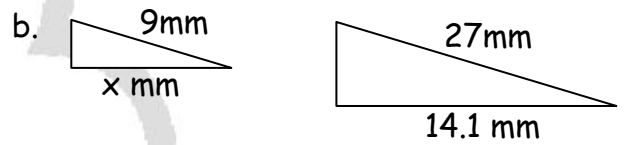
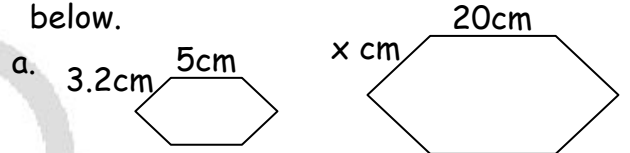
**Monday**

1. Find the value of  $x$  for each pair of mathematically similar shapes shown below.



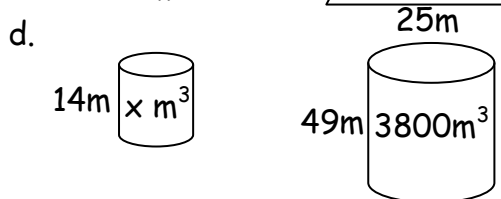
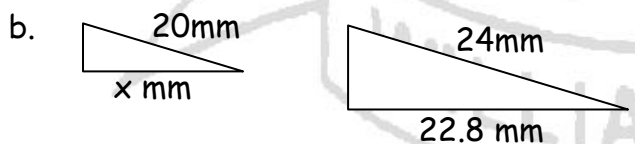
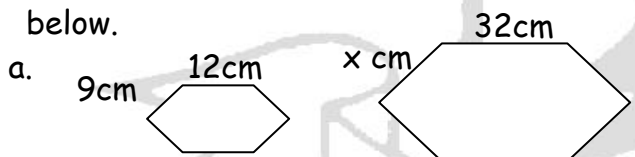
**Tuesday**

1. Find the value of  $x$  for each pair of mathematically similar shapes shown below.



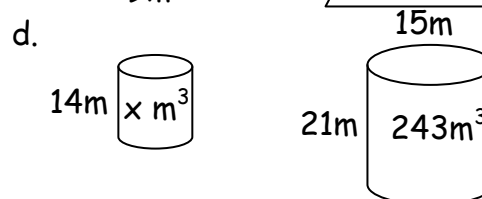
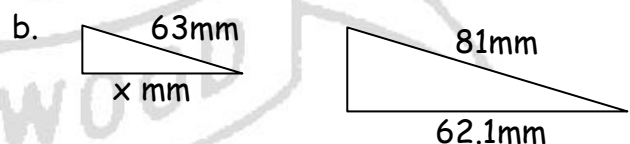
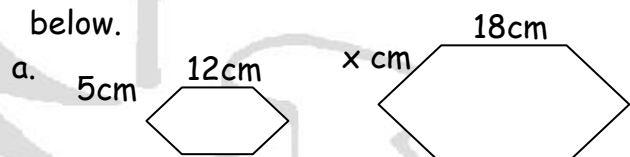
**Wednesday**

1. Find the value of  $x$  for each pair of mathematically similar shapes shown below.



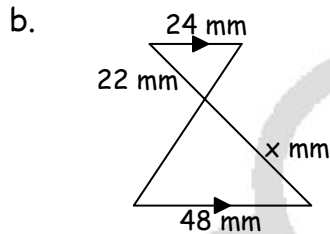
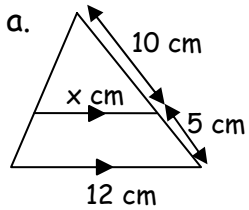
**Thursday**

1. Find the value of  $x$  for each pair of mathematically similar shapes shown below.



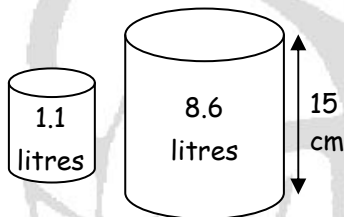
**Monday**

1. Calculate  $x$  in each of the following, giving your answers correct to 2 d.p.



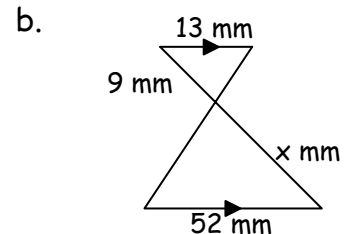
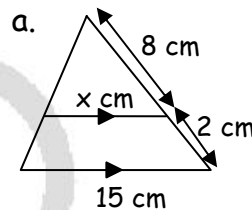
2. A water bottle has a base diameter of 8 cm and a volume of 340 ml. Calculate the volume of a mathematically similar bottle which has a base diameter of 10 cm.

3. Find the height of the small paint tin shown opposite.



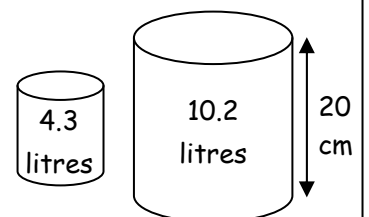
**Tuesday**

1. Calculate  $x$  in each of the following, giving your answers correct to 2 d.p.



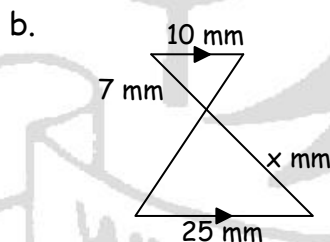
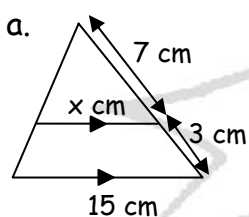
2. A water bottle has a base diameter of 8 cm and a volume of 640 ml. Calculate the volume of a mathematically similar bottle which has a base diameter of 12 cm.

3. Find the height of the small paint tin shown opposite.



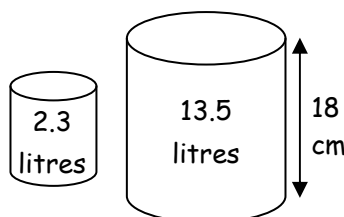
**Wednesday**

1. Calculate  $x$  in each of the following, giving your answers correct to 2 d.p.



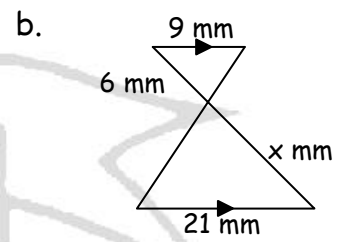
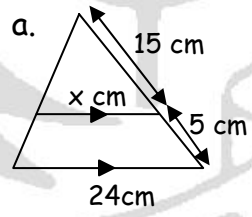
2. A water bottle has a base diameter of 24 cm and a volume of 1300 ml. Calculate the volume of a mathematically similar bottle which has a base diameter of 9 cm.

3. Find the height of the small paint tin shown opposite.



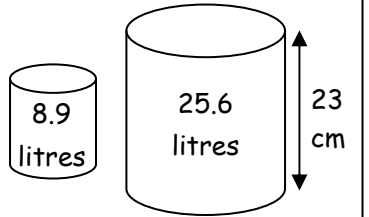
**Thursday**

1. Calculate  $x$  in each of the following, giving your answers correct to 2 d.p.



2. A water bottle has a base diameter of 21 cm and a volume of 4900 ml. Calculate the volume of a mathematically similar bottle which has a base diameter of 18 cm.

3. Find the height of the small paint tin shown opposite.



**Monday**

Calculate the missing quantity below:

1.  $S = 75\text{m/hr}$ ,  $T = 2\text{hrs}$ ,  $D = ?$
2.  $S = 26.5\text{km/hr}$ ,  $T = 3.5\text{hrs}$ ,  $D = ?$
3.  $T = 3\text{hrs } 15\text{mins}$ ,  $D = 12\text{miles}$ ,  $S = ?$
4.  $T = 7\text{hrs } 45\text{mins}$ ,  $D = 138\text{miles}$ ,  $S = ?$
5.  $D = 400\text{km}$ ,  $S = 16\text{km/hr}$ ,  $T = ?$
6.  $D = 720\text{miles}$ ,  $S = 80\text{m/hr}$ ,  $T = ?$
7. A family leave Glasgow at 7.35am, travelling a total of 114 miles to reach their destination. If they arrive at the destination at 1.50pm, calculate the speed of the car they were driving.
8. An athlete runs 200m in 27.6secs; calculate the average speed of the athlete.

**Tuesday**

Calculate the missing quantity below:

1.  $S = 52\text{m/hr}$ ,  $T = 5\text{hrs}$ ,  $D = ?$
2.  $S = 39.8\text{km/hr}$ ,  $T = 3.25\text{hrs}$ ,  $D = ?$
3.  $T = 6\text{hrs } 30\text{mins}$ ,  $D = 40\text{miles}$ ,  $S = ?$
4.  $T = 4\text{hrs } 15\text{mins}$ ,  $D = 200\text{miles}$ ,  $S = ?$
5.  $D = 266\text{km}$ ,  $S = 28\text{km/hr}$ ,  $T = ?$
6.  $D = 517.5\text{miles}$ ,  $S = 90\text{m/hr}$ ,  $T = ?$
7. A family leave Glasgow at 8.20am, travelling a total of 205 miles to reach their destination. If they arrive at the destination at 6.50pm, calculate the speed of the car they were driving.
8. An athlete runs 400m in 49.2secs; calculate the average speed of the athlete.

**Wednesday**

Calculate the missing quantity below:

1.  $S = 66\text{m/hr}$ ,  $T = 4\text{hrs}$ ,  $D = ?$
2.  $S = 31.9\text{km/hr}$ ,  $T = 7.75\text{hrs}$ ,  $D = ?$
3.  $T = 5\text{hrs } 30\text{mins}$ ,  $D = 56\text{miles}$ ,  $S = ?$
4.  $T = 9\text{hrs } 45\text{mins}$ ,  $D = 220\text{miles}$ ,  $S = ?$
5.  $D = 429\text{km}$ ,  $S = 78\text{km/hr}$ ,  $T = ?$
6.  $D = 1020\text{miles}$ ,  $S = 120\text{m/hr}$ ,  $T = ?$
7. A family leave Glasgow at 3.28am, travelling a total of 700 miles to reach their destination. If they arrive at the destination at 1.43pm, calculate the speed of the car they were driving.
8. An athlete runs 100m in 12.01secs; calculate the average speed of the athlete.

**Thursday**

Calculate the missing quantity below:

1.  $S = 94\text{m/hr}$ ,  $T = 6\text{hrs}$ ,  $D = ?$
2.  $S = 55.1\text{km/hr}$ ,  $T = 3.25\text{hrs}$ ,  $D = ?$
3.  $T = 1\text{hrs } 20\text{mins}$ ,  $D = 7\text{miles}$ ,  $S = ?$
4.  $T = 6\text{hrs } 50\text{mins}$ ,  $D = 212\text{miles}$ ,  $S = ?$
5.  $D = 507\text{km}$ ,  $S = 78\text{km/hr}$ ,  $T = ?$
6.  $D = 656\text{miles}$ ,  $S = 64\text{m/hr}$ ,  $T = ?$
7. A family leave Glasgow at 4.14am, travelling a total of 650 miles to reach their destination. If they arrive at the destination at 2.59pm, calculate the speed of the car they were driving.
8. An athlete runs 400m in 61.4secs; calculate the average speed of the athlete.



**Monday**

Solve the following equations:

1.  $3a + 4 = 2a - 7$
2.  $7b + 3 = 4 - 5b$
3.  $8 - 5c = 8c + 1$
4.  $3(2d + 7) = 4(3d + 5)$

Solve the following equations:

1.  $\frac{x+1}{4} + \frac{x+2}{5} = 2$
2.  $\frac{2x+1}{3} + \frac{x+4}{5} = 2$
3.  $\frac{3x+2}{4} + \frac{2x+3}{3} = \frac{3}{2}$
4.  $\frac{2x+3}{2} + \frac{x+4}{3} = \frac{3}{2}$

**Tuesday**

Solve the following equations:

1.  $7a + 5 = 3a - 9$
2.  $2b + 2 = 8 - 4b$
3.  $21 - 3c = 7c + 1$
4.  $3(4d + 2) = 2(5d + 1)$

Solve the following equations:

1.  $\frac{4x+1}{2} + x = \frac{8x+3}{4}$
2.  $\frac{3x+4}{2} - x = \frac{2x+8}{3}$
3.  $\frac{x-1}{3} + \frac{3x-2}{4} = \frac{4}{3}$
4.  $\frac{3x+1}{5} + \frac{2x+5}{2} = -\frac{1}{2}$

**Wednesday**

Solve the following equations:

1.  $8a + 2 = 5a - 13$
2.  $9b + 5 = 7 - 4b$
3.  $11 - 3c = 6c + 8$
4.  $7(3d + 2) = 3(3d + 6)$

Solve the following equations:

1.  $\frac{3}{4}(3x + 1) + \frac{1}{2}(x - 1) = 3$
2.  $\frac{2}{5}(2x + 1) + \frac{1}{2}(x - 2) = 2$
3.  $\frac{2}{3}(x + 3) + \frac{3}{5}(x + 5) = 5$
4.  $\frac{3}{4}(2x + 3) + 1 = \frac{4}{5}(4x + 3)$

**Thursday**

Solve the following equations:

1.  $8a + 5 = 6a - 13$
2.  $9b + 2 = 8 - 6b$
3.  $10 - 4c = 7c + 14$
4.  $7(5d + 3) = 4(4d + 3)$

Solve the following equations:

1.  $\frac{3}{4}(4x - 2) - 3x = \frac{1}{2}(4x + 5)$
2.  $\frac{1}{6}x + \frac{2}{3}(x + 3) = \frac{1}{2}(x + 12)$
3.  $\frac{3}{5}x + \frac{1}{2}(x + 6) = \frac{2}{5}(3x + 5)$
4.  $\frac{5}{3}(2x + 3) - 4 = \frac{3}{4}(5x - 2)$

**Monday**

Solve the following equations:

- $6(3x + 2) = 4(4x + 7)$
- $5(7x - 2) = 11(3x + 2)$
- $3(9x + 4) = 5(5x + 4)$
- $3(3x - 5) + 2(3x + 7) = 19$
- $6(4x + 3) - 9(2x + 1) = 21$
- $7(5x - 2) - 8(4x + 1) = 5$

Solve the following:

- $2x - \frac{1}{2}(19 - 2x) = \frac{1}{2}(2x - 11)$
- $\frac{1}{3}(x + 3) - \frac{1}{2}(2x - 3) = x - \frac{5}{6}$
- $\frac{1}{4}(x + 2) + \frac{1}{6}(2x - 3) = \frac{1}{3}(x + 3)$

**Tuesday**

Solve the following equations:

- $3(8x + 2) - 4x = 36$
- $2(3x + 5) - 3 = 16$
- $4(5x - 1) = 3(4x + 12)$
- $7x + 6 = 2(3x + 2)$
- $8(3x + 2) = 4(5x + 1)$
- $11x - 1 = 3(3x - 5)$

Solve the following:

- $\frac{1}{5}(3x - 1) - \frac{1}{3}(2x - 3) = 1$
- $5 - \frac{1}{4}(3x + 1) = \frac{1}{6}(x - 10)$
- $\frac{1}{3}(4x - 1) - \frac{1}{4}(3x - 4) = 6 - \frac{1}{2}(x + 2)$

**Wednesday**

Solve the following equations:

- $3(2x + 5) + 5(x - 1) = -1$
- $3(x + 1) + 2(2x + 7) = 3$
- $4(x + 3) - 2 = 2$
- $2x - 3(2 - x) = 4$
- $5(3x - 4) = 8x + 1$
- $8(x - 2) - 2(2x - 1) = 2x + 1$

Solve the following:

- $\frac{1}{5}(2x - 1) - \frac{1}{2}(x + 3) = \frac{1}{5}(3x - 5)$
- $\frac{1}{4}(x + 7) - \frac{1}{5}(x + 1) = 1 + \frac{1}{5}(3x - 22)$
- $x + \frac{1}{5}(3x - 9) = 11 - \frac{1}{3}(5x - 12)$

**Thursday**

Solve the following equations:

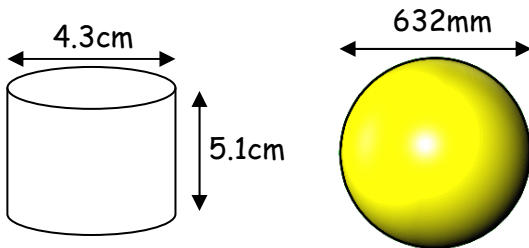
- $6(2x + 1) + 7 = 9x + 1$
- $6(1 - x) + 4 = 3(2 - x) - 4$
- $3x - 2(12 - x) = 4(2x - 3) + 3(x + 1)$
- $0 = 3(2 - 3x) - 7(x - 3)$
- $2(x - 1) - 3(2 - x) + 4(1 - x) = 0$
- $7 - 5(x - 2) = 5 - 3(x + 3)$

Solve the following:

- $\frac{5x - 7}{2} - \frac{2x + 7}{3} = 3x - 14$
- $\frac{x - 2}{3} - \frac{12 - x}{2} = \frac{5x - 36}{4} - 2$

**Monday**

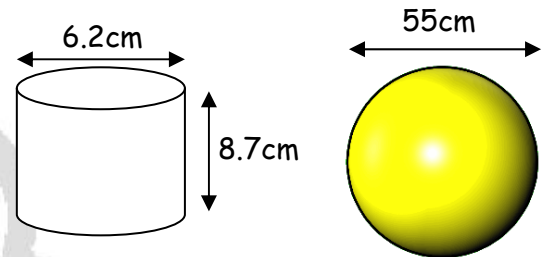
1. Find the volume of each shape below.



2. Find the height of a cylinder with volume  $400\text{cm}^3$  and radius 5cm.
3. Find the radius of a sphere with volume  $1400\text{cm}^3$ .

**Tuesday**

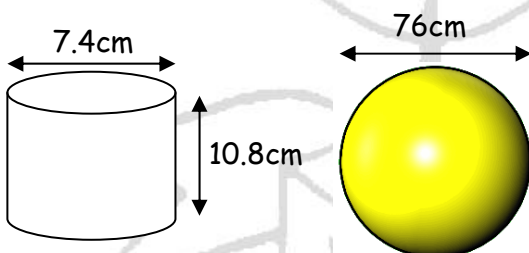
1. Find the volume of each shape below.



2. Find the height of a cylinder with volume  $1850\text{cm}^3$  and radius 7cm.
3. Find the radius of a sphere with volume  $2140\text{cm}^3$ .

**Wednesday**

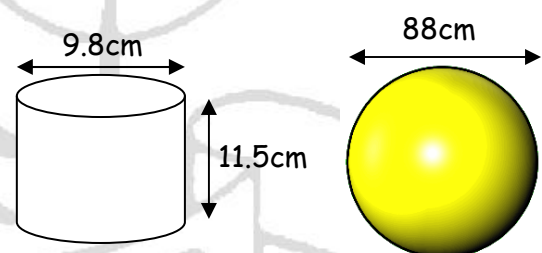
1. Find the volume of each shape below.



2. Find the height of a cylinder with volume  $176\text{cm}^3$  and radius 2cm.
3. Find the radius of a sphere with volume  $1900\text{cm}^3$ .

**Thursday**

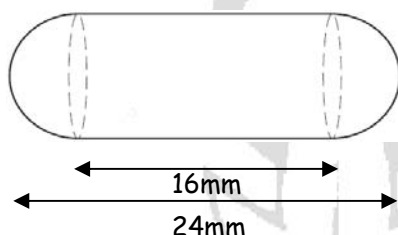
1. Find the volume of each shape below.



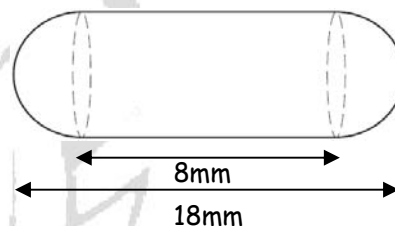
2. Find the height of a cylinder with volume  $890\text{cm}^3$  and radius 4cm.
3. Find the radius of a sphere with volume  $3706\text{cm}^3$ .

**Monday**

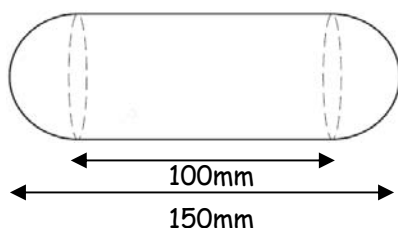
- Find the radius of a cone with height 12cm and volume  $203\text{cm}^3$
- Find the volume of a hemisphere with diameter 1500cm.
  - Give your answer correct to 3 s.f.
  - Write the answer to (i) in standard Form
- A medicine capsule is made up of a cylinder with a hemisphere on each end as shown. Calculate the volume of one capsule, giving your answer correct to 1 d.p.

**Tuesday**

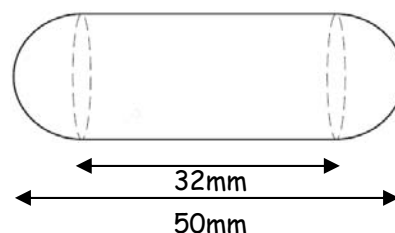
- Find the radius of a cone with height 11cm and volume  $225\text{cm}^3$
- Find the volume of a hemisphere with diameter 640cm.
  - Give your answer correct to 3 s.f.
  - Write the answer to (i) in standard form
- A medicine capsule is made up of a cylinder with a hemisphere on each end as shown. Calculate the volume of one capsule, giving your answer correct to 1 d.p.

**Wednesday**

- Find the radius of a cone with height 18cm and volume  $403\text{cm}^3$
- Find the volume of a hemisphere with diameter 2300cm.
  - Give your answer correct to 3 s.f.
  - Write the answer to (i) in standard form
- A medicine capsule is made up of a cylinder with a hemisphere on each end as shown. Calculate the volume of one capsule, giving your answer correct to 1 d.p.

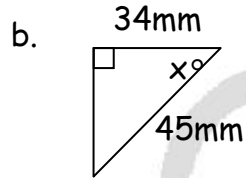
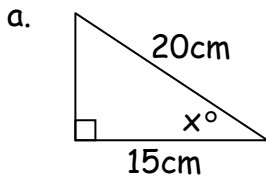
**Thursday**

- Find the radius of a cone with height 6cm and volume  $115\text{cm}^3$
- Find the volume of a hemisphere with diameter 5100cm.
  - Give your answer correct to 3 s.f.
  - Write the answer to (i) in standard form
- A medicine capsule is made up of a cylinder with a hemisphere on each end as shown. Calculate the volume of one capsule, giving your answer correct to 1 d.p.

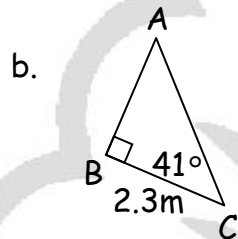
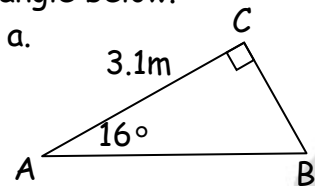


**Monday**

1. Find the size of angle  $x^\circ$  in each of the following:



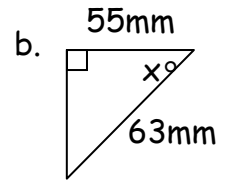
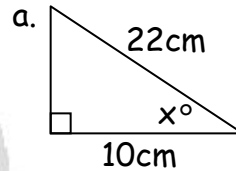
2. Find the length of AB in each right angled triangle below.



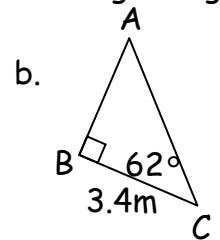
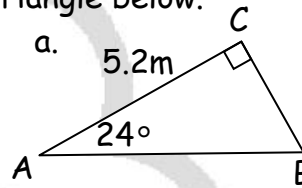
3. A 5.5 metre long ladder is placed against a wall so that the foot of the ladder is 0.9 metres from the base of the wall. Find the size of the angle between the ladder and the wall.

**Tuesday**

1. Find the size of angle  $x^\circ$  in each of the following:



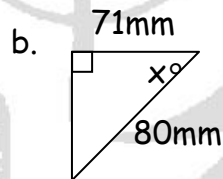
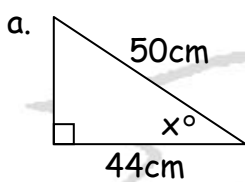
2. Find the length of AB in each right angled triangle below.



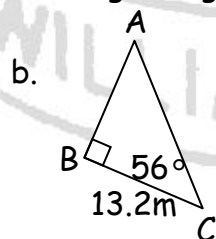
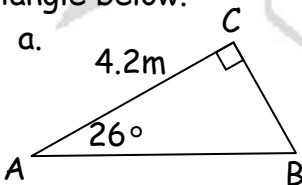
3. A 5.7 metre long ladder is placed against a wall so that the foot of the ladder is 1.2 metres from the base of the wall. Find the size of the angle between the ladder and the wall.

**Wednesday**

1. Find the size of angle  $x^\circ$  in each of the following:



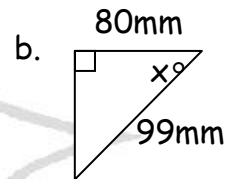
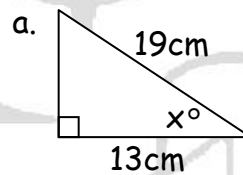
2. Find the length of AB in each right angled triangle below.



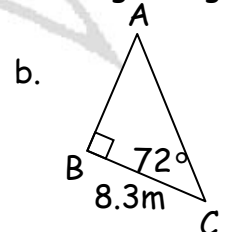
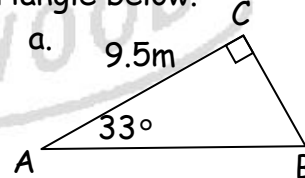
3. A 7.1 metre long ladder is placed against a wall so that the foot of the ladder is 1.6 metres from the base of the wall. Find the size of the angle between the ladder and the wall.

**Thursday**

1. Find the size of angle  $x^\circ$  in each of the following:



2. Find the length of AB in each right angled triangle below.



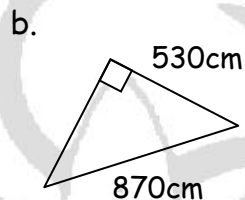
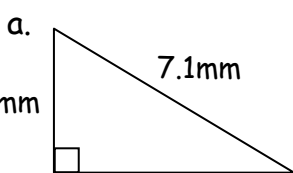
3. A 6.4 metre long ladder is placed against a wall so that the foot of the ladder is 1.4 metres from the base of the wall. Find the size of the angle between the ladder and the wall.

**Monday**

Solve each of the following equations

- $4(y + 4) = 2(y + 3)$
- $3(t + 2) = 7(7 - t) - 9$
- $2(j - 3) = 9(6 - 3j) + 10j$
- Aaminah puts her 6m ladder against a wall making an angle of  $71^\circ$  between the ladder and the ground.  
How high up the wall will it reach?  
Give your answer correct to 2 d.p.

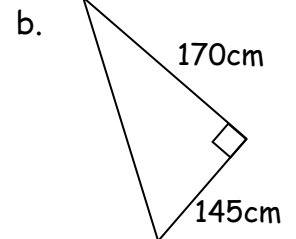
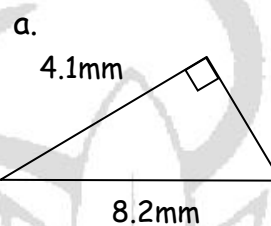
5. Find the missing side of each triangle.

**Tuesday**

Solve each of the following equations

- $5(y + 3) = 2(y + 3)$
- $6(t + 5) = 5(1 - t) - 5$
- $2(j - 4) = 6(5 - 3j) + 9j$
- Gordon's kite has a string that measures 32m in length. He flies the kite so that the string makes an angle of  $61^\circ$  with the ground.  
At what height is the kite flying?  
Give your answer correct to 2 d.p.

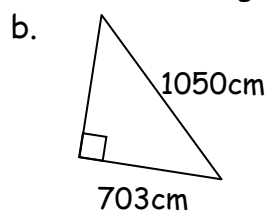
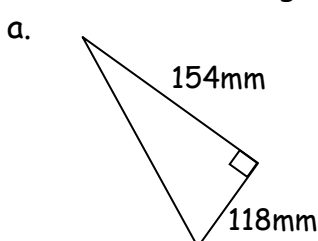
5. Find the missing side of each triangle.

**Wednesday**

Solve each of the following equations

- $5(y + 1) = 8(y + 2)$
- $2(t + 3) = 4(5 - t) - 9$
- $3(j - 1) = 3(3 - 2j) + 15j$
- Sarah puts her 4.2m ladder against a wall making an angle of  $80^\circ$  between the ladder and the ground.  
How high up the wall will it reach?  
Give your answer correct to 2 d.p.

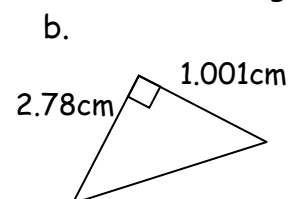
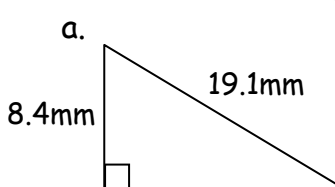
5. Find the missing side of each triangle.

**Thursday**

Solve each of the following equations

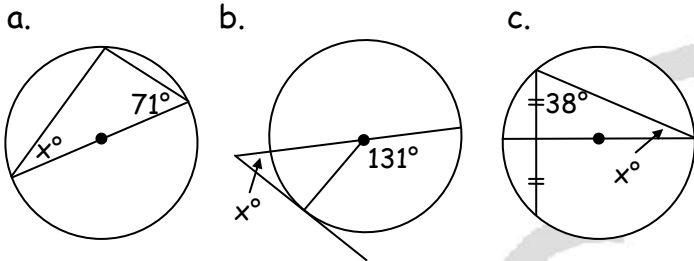
- $5(y + 5) = 3(y + 8)$
- $8(t + 5) = 4(6 - t) - 9$
- $-(j - 2) = 5(6 - 3j) + 8j$
- A kite with a 45m string is flown so that the string makes an angle of  $73^\circ$  with the ground.  
At what height is the kite flying?  
Give your answer correct to 2 d.p.

5. Find the missing side of each triangle.

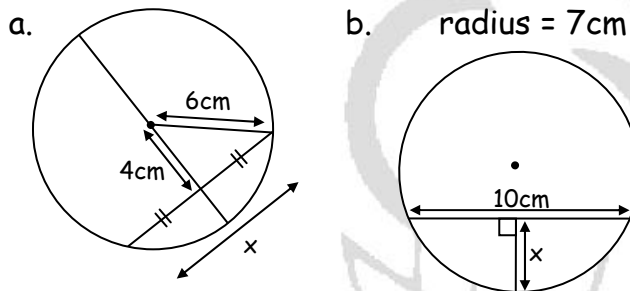


**Monday**

1. Find the value of  $x^\circ$  in each shape below.

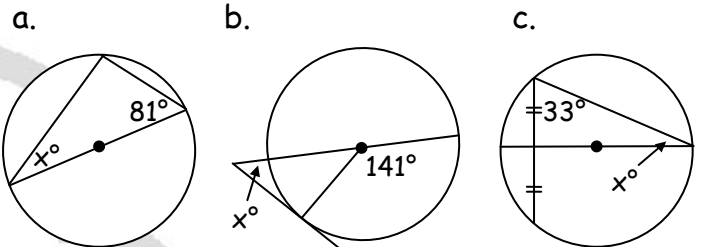


2. Find the length of  $x$  in each diagram below correct to 2dp.

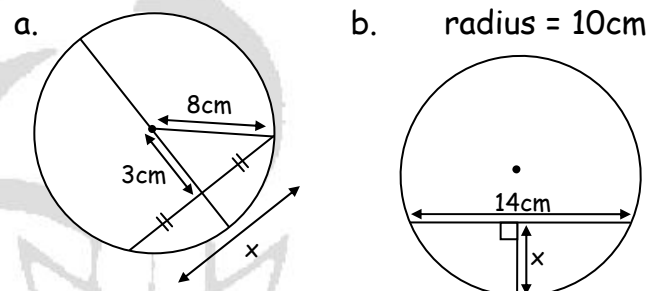


**Tuesday**

1. Find the value of  $x^\circ$  in each shape below.

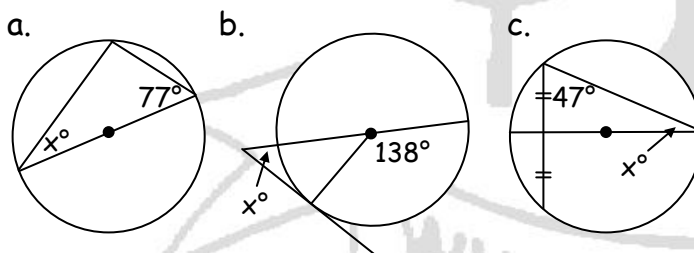


2. Find the length of  $x$  in each diagram below correct to 2dp.

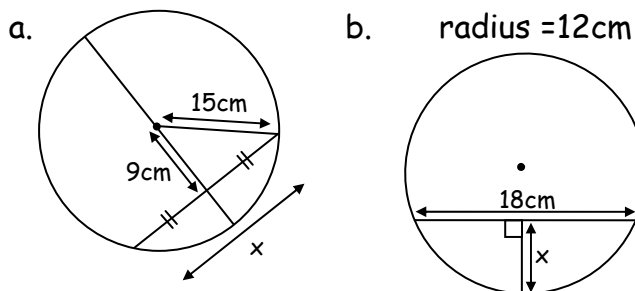


**Wednesday**

1. Find the value of  $x^\circ$  in each shape below.

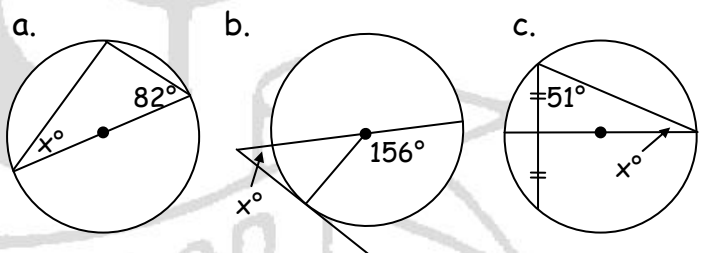


2. Find the length of  $x$  in each diagram below correct to 2dp.

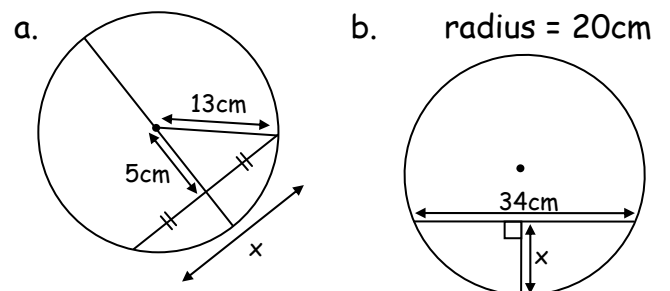


**Thursday**

1. Find the value of  $x^\circ$  in each shape below.



2. Find the length of  $x$  in each diagram below correct to 2dp.



**Monday**

- Find the coordinates of the points where each line crosses both axes.
  - $y = 7x - 14$
  - $2y - x = 3$
  - $9 = x - 4y$
  - $2y - 4x = 15$
- A cone has a volume of  $12,000\text{cm}^3$  and height of 80cm. Calculate the radius of the cone.
- A sphere has a volume of  $6500\text{cm}^3$ . Calculate the radius of the sphere.

**Tuesday**

- Find the coordinates of the points where each line crosses both axes.
  - $y = 5x - 7$
  - $3y - x = 5$
  - $11 = x - 7y$
  - $5y - 3x = 27$
- A cone has a volume of  $36,000\text{cm}^3$  and a height of 114cm. Calculate the radius of the cone.
- A sphere has a volume of  $12,500\text{cm}^3$ . Calculate the radius of the sphere.

**Wednesday**

- Find the coordinates of the points where each line crosses both axes.
  - $y = -4x - 9$
  - $4y - x = 5$
  - $8 = x - 6y$
  - $7y - 3x = 5$
- A cone has a volume of  $45,000\text{cm}^3$  and a height of 84cm. Calculate the radius of the cone.
- A sphere has a volume of  $64,300\text{cm}^3$ . Calculate the radius of the sphere.

**Thursday**

- Find the coordinates of the points where each line crosses both axes.
  - $y = -11x - 2$
  - $6y - x = 10$
  - $14 = x - 8y$
  - $7y - 9x = 28$
- A cone has a volume of  $27,400\text{cm}^3$  and a height of 103cm. Calculate the radius of the cone.
- A sphere has a volume of  $77,430\text{cm}^3$ . Calculate the radius of the sphere.



**Monday**

- Find the volume (correct to 2s.f.) of
  - A cone with height 12cm and radius 3cm
  - A cylinder with diameter 5cm and height 22.3cm
  - A sphere with diameter 9.3cm
  - A hemisphere with radius 3.7m
- Solve each equation below
  - $4r(r - 2) = (2r + 1)(2r - 3)$
  - $(3w + 1)(w - 2) = (w + 2)(3w - 4)$
  - $(5t + 7)(5t - 7) = (25t - 1)(t + 1)$
- A tie is reduced to £8.99 in a "30% off everything" sale.  
How much did the tie cost before the sale?

**Tuesday**

- Find the volume (correct to 2s.f.) of
  - A cone with height 7cm and radius 2cm
  - A cylinder with diameter 11cm and height 21.8cm
  - A sphere with diameter 43cm
  - A hemisphere with radius 1.5m
- Solve each equation below
  - $3p(p - 2) = (3p + 4)(p - 2)$
  - $(2h + 3)(2h - 2) = (4h + 1)(h - 4)$
  - $(x + 3)(5x - 4) = (5x - 1)(x - 2)$
- A hat is reduced to £4.99 in a "25% off everything" sale.  
How much did the hat cost before the sale?

**Wednesday**

- Find the volume (correct to 1s.f.) of
  - A cone with height 15cm and radius 0.5cm
  - A cylinder with diameter 18cm and height 42.9cm
  - A sphere with diameter 1.1cm
  - A hemisphere with radius 0.73m
- Solve each equation below
  - $3k(2k - 3) = (2k + 1)(3k + 5)$
  - $(2z + 3)(4z - 1) = (8z + 1)(z - 3)$
  - $(4m + 5)(3m + 2) = (6m - 3)(2m - 1)$
- A car is reduced to £4,995 in a "12% off" sale.  
How much did the car cost before the sale?

**Thursday**

- Find the volume (correct to 3s.f.) of
  - A cone with height 2.87cm and radius 1.19cm
  - A cylinder with diameter 7.1cm and height 45.3cm
  - A sphere with diameter 4.3cm
  - A hemisphere with radius 7.87m
- Solve each equation below
  - $r(r - 5) = (r + 1)(r - 3)$
  - $(2w + 1)(5w - 2) = (10w + 2)(w - 4)$
  - $(3t + 5)(4t - 2) = (t + 3)(12t + 1)$
- A flight is reduced to £486 in a "35% off everything" sale.  
How much did the flight cost before the sale?

**Monday**

- Solve each of the following equations
  - $(3x + 2)(x + 5) = 3x^2 - 7$
  - $(2x + 1)(x - 5) = 2x^2 + 22$
  - $3x(x + 3) - 2(x - 5) = (x - 7)(3x - 2)$
- Sketch each straight line below
  - $y = 3x - 7$
  - $2y + 4x = 10$
  - $6x = 2y - 6$
  - $8 - 4x = 4y$
- Find the height (to 2dp) of
  - A cylinder with radius 6m and volume  $120\text{m}^3$ .
  - A cone with radius 4mm and volume  $2000\text{mm}^3$ .

**Tuesday**

- Solve each of the following equations
  - $(4x + 3)(x + 5) = 4x^2 + 38$
  - $(3x + 2)(x + 4) = 3x^2 + 50$
  - $x(x + 3) + 3(x + 1) = (x + 3)(x + 2)$
- Sketch each straight line below
  - $y = 4x - 2$
  - $2y - 4x = 10$
  - $12x = 3y + 9$
  - $4 - x = 2y$
- Find the height (to 2dp) of
  - A cylinder with radius 4m and volume  $163\text{m}^3$ .
  - A cone with radius 7mm and volume  $4125\text{mm}^3$ .

**Wednesday**

- Solve each of the following equations
  - $(5x - 1)(x - 3) = 5x^2 - 5$
  - $(x + 1)(4x - 3) = 4x^2 + 12$
  - $x(x - 3) - 3(x - 1) = (x + 4)(x - 4)$
- Sketch each straight line below
  - $y = x + 5$
  - $3y + 6x = -15$
  - $x = 2y - 4$
  - $15 - 5x = 5y$
- Find the height (to 2dp) of
  - A cylinder with radius 18m and volume  $4194\text{m}^3$ .
  - A cone with radius 2mm and volume  $378\text{mm}^3$ .

**Thursday**

- Solve each of the following equations
  - $(5x + 6)(x - 2) = 5x^2 + 4$
  - $(3x - 1)(x - 3) = 3x^2 + 43$
  - $x(x + 4) + 5(x - 1) = (x + 3)^2$
- Sketch each straight line below
  - $y = -2x + 3$
  - $3y - 12x = -3$
  - $x = 6y + 3$
  - $2 - x = 4y$
- Find the height (to 2dp) of
  - A cylinder with radius 10.5m and volume  $4759\text{m}^3$ .
  - A cone with radius 2.8mm and volume  $12345\text{mm}^3$ .