A: Manipulate Expressions (I)

1) Factorise $3x + 12$

$3(x+4)$

2) Factorise fully $2x^2 - 4xy$

$2x(x-2y)$

3) Expand and simplify $3(2a + 5) + 5(a - 2)$

$6a+15+5a-10 = 11a+5$

4) Expand $x(x + 2)$

x^2+2x

5) Factorise $15x - 10$

$5(3x-2)$

6) Expand and simplify $2(x - y) - 3(x - 2y)$

$2x-2y-3x+6y = -x+4y$

7) Simplify $x^5 \times x^4$

x^9

8) Simplify $x^7 \div x^2$

x^5

9) Expand and simplify $3(2a + 5) + 5(a - 2)$

$6a+15+5a-10 = 11a+5$

10) Expand and simplify $(x + 5)(x + 7)$

$x^2+5x+7x+35 = x^2+12x+35$

B: Manipulate Expressions (II)

1) Factorise $p^2 - 6p + 5$

$(p-5)(p-1)$

2) Expand and simplify $(p + 9)(p - 4)$

$p^2+9p-4p-36 = p^2+5p-36$

3) Factorise $x^2 - 11x + 18$

$(x-9)(x-2)$

4) Factorise $x^2 - 49$

$(x+7)(x-7)$

5) Simplify $(9x^8y^3)^{\frac{1}{2}}$

$3x^4y^{3/2}$

6) Factorise $8x - 20$

$4(2x-5)$

7) Factorise $10x^2 - 15xy$

$5x(2x-3y)$

8) Factorise $x^2 - 64$

$(x+8)(x-8)$

9) Expand and simplify $(x + 7)(x - 5)$

$x^2+7x-5x-35 = x^2+2x-35$

C: Manipulate Expressions (III)

1) Expand and simplify $(t+5)(t-4)$

$t^2+5t-4t-20 = t^2+t-20$

2) Factorise $x^2+17x+60$

$(x+12)(x+5)$

3) Factorise x^2-144

$(x+12)(x-12)$

4) Factorise $2x^2-7x-15$

$(2x+3)(x-5)$

5) Simplify $5x^4y^3 \times x^2y$

$5x^6y^4$

6) Simplify $\frac{45e^6f^8}{5ef^2}$

$9e^5f^6$

7) Factorise $4x^2-1$

$(2x+1)(2x-1)$

8) Factorise $2x^2+3x+1$

$(2x+1)(x+1)$

9) Simplify $(m^3)^5$

m^{15}

D: Surds

1) Rationalise the denominator $\frac{1}{\sqrt{7}}$

$\frac{\sqrt{7}}{7}$

2) Expand and simplify $(3-\sqrt{2})(3+\sqrt{2})$

$9+3\sqrt{2}-3\sqrt{2}-2 = 7$

3) Express $\frac{6}{\sqrt{2}}$ in the form $a\sqrt{b}$

$\frac{6\sqrt{2}}{2} = 3\sqrt{2}$

4) Expand and simplify $(2+\sqrt{3})(1+\sqrt{3})$

$2+2\sqrt{3}+\sqrt{3}+3 = 5+3\sqrt{3}$

5) Rationalise the denominator $\frac{5}{\sqrt{7}}$

$\frac{5\sqrt{7}}{7}$

6) Expand and simplify $(2+\sqrt{3})(7-\sqrt{3})$

$14-2\sqrt{3}+7\sqrt{3}-3 = 11+5\sqrt{3}$

7) Rationalise the denominator $\frac{1}{\sqrt{3}}$

$\frac{\sqrt{3}}{3}$

8) Express $\frac{\sqrt{18}+10}{\sqrt{2}}$ in the form $p+q\sqrt{2}$

$\frac{\sqrt{2}(\sqrt{18}+10)}{2} = \frac{\sqrt{36}+10\sqrt{2}}{2} = \frac{6+10\sqrt{2}}{2} = 3+5\sqrt{2}$

9) Simplify $\sqrt{162} \times \sqrt{48}$

$\sqrt{81\times2} \times \sqrt{16\times3} = 9\sqrt{2}\times 4\sqrt{3} = 36\sqrt{6}$

E: Indices

1) Write down the value of $9^{\frac{1}{2}}$ $\sqrt{9} = 3$

2) Work out the value of $(2^2)^3$ $2^6 = 64$

3) Work out the value of 4^{-2} $\frac{1}{4^2} = \frac{1}{16}$

4) Write down the value of $49^{\frac{1}{2}}$ $\sqrt{49} = 7$

5) $7^6 \times 7^5 = 7^3 \times 7^k$, what is the value of k?

$7^6 \times 7^5 = 7^{11}$ $k = 8$

6) Write down the reciprocal of 2

$\frac{1}{2}$

7) Work out $16^{\frac{3}{2}}$

$(16^{\frac{1}{2}})^3 = (\sqrt{16})^3 = 4^3 = 64$

8) Work out 64^0

1

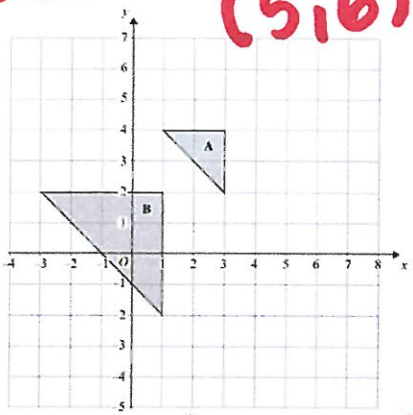
9) Work out $64^{-\frac{2}{3}}$

$\frac{1}{64^{\frac{2}{3}}} = \frac{1}{(64^{\frac{1}{3}})^2} = \frac{1}{(\sqrt[3]{64})^2} = \frac{1}{4^2} = \frac{1}{16}$

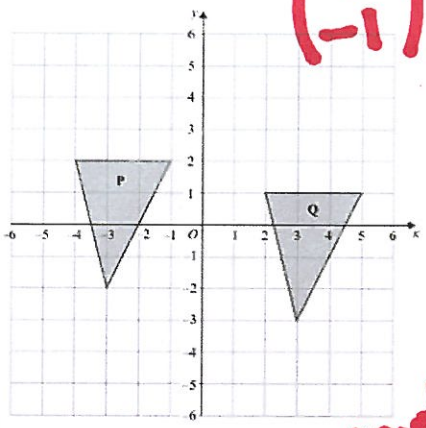
F: Describing transformations

Describe fully the single transformation that maps one shape to the other - assume the shapes are mapped in alphabetical order.

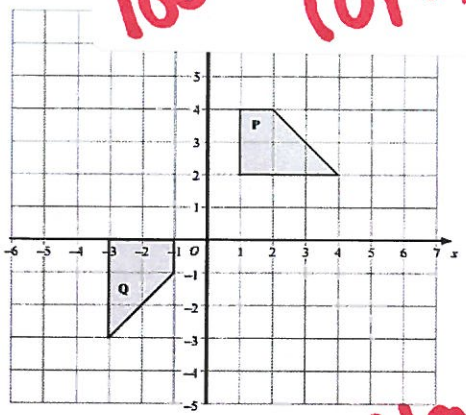
1 Enlargement S.F. 2 Centre (5, 6)



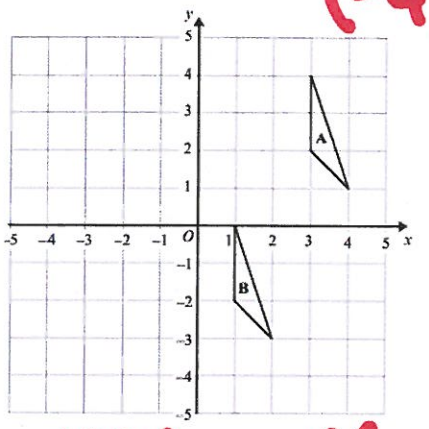
2 Translation $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$



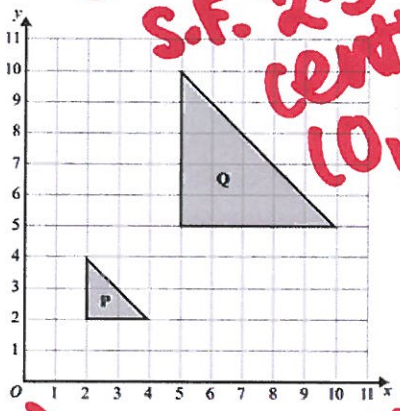
3 Rotation 180° about (0, 1)



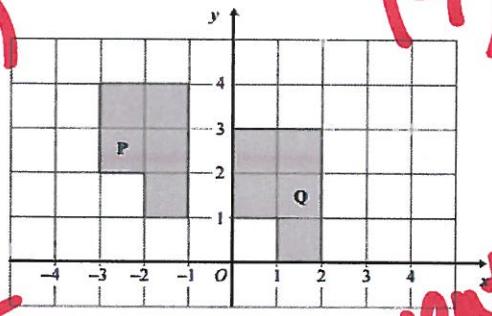
4 Translation $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$



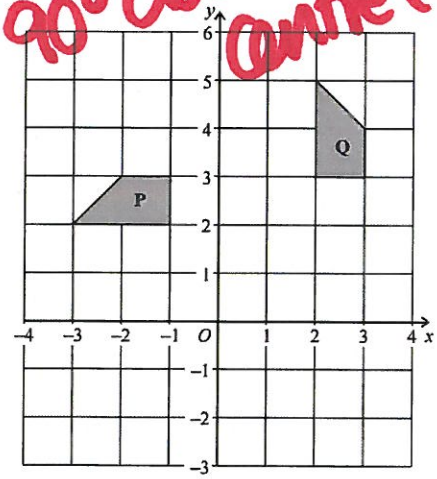
5 Enlargement S.F. 2.5 centre (0, 0)



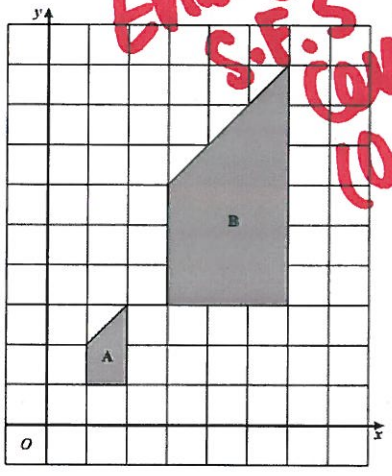
6 Translation $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$



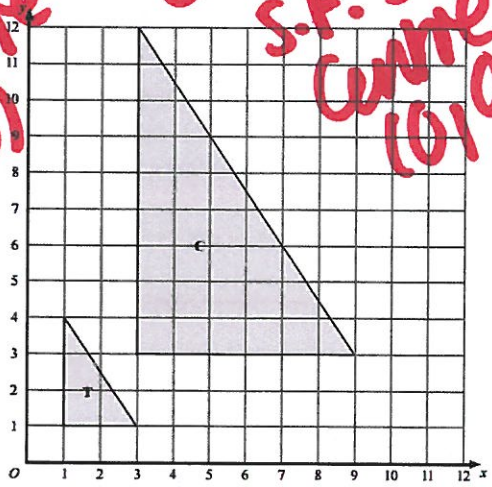
7 Rotation 90° clockwise centre (1, 1)



8 Enlargement S.F. 3 centre (0, 0)



9 Enlargement S.F. 3 centre (0, 0)



G: Standard Form

1) Write 0.00037 in standard form

3.7×10^{-4}

2) Write 8.25×10^3 as a normal number

8250

3) Work out $(2.1 \times 10^8) \times (6 \times 10^{-5})$

$12.6 \times 10^3 = 1.26 \times 10^4$

4) Write 6.43×10^5 as an ordinary number

643000

5) Work out $2 \times 10^7 \times 8 \times 10^{-12}$.

Give your answer in standard form.

$16 \times 10^{-5} = 1.6 \times 10^{-4}$

6) Work out $(3 \times 10^7) \times (9 \times 10^6)$.

Give your answer in standard form.

$27 \times 10^{13} = 2.7 \times 10^{14}$

7) What is the value of $(2.3 \times 10^{12}) \div (4.6 \times 10^3)$.

Give your answer in standard form.

$0.5 \times 10^9 = 5 \times 10^8$

8) Write 3×10^{-5} as an ordinary number

0.00003

H: Stratified sampling

1) Jenny is carrying out a survey for her GCSE Mathematics project.

She uses a stratified sample of 60 students according to year group.

Calculate the number of Year 11 students that should be in her sample

Year group	7	8	9	10	11
Number of students	190	145	145	140	130

Total = 750

$\frac{130}{750} \times 60 = 10.4$

10 students

2) An inspector wants to look at the work of a stratified sample of 70 of these students.

Find the number of students studying each of these languages that should be in the sample.

Total = 650

Language	Number of students
Greek	145
Spanish	121
German	198
French	186

$\frac{145}{650} \times 70 = 15.6 \rightarrow 16$

$\frac{121}{650} \times 70 = 13.0 \rightarrow 13$

$\frac{198}{650} \times 70 = 21.3 \rightarrow 21$

$\frac{186}{650} \times 70 = 20.0 \rightarrow 20$

3) John wants to do a survey of the competitors.

He uses a stratified sample of exactly 50 competitors according to each age group.

Work out the number of competitors in each age group that should be in his stratified sample of 50.

Total = 570

16-18 years	19-24 years	25+ years
120	250	200

$\frac{200}{570} \times 50 = 17.5 \rightarrow 18$

$\frac{120}{570} \times 50 = 10.5 \rightarrow 11$

$\frac{250}{570} \times 50 = 21.9 \rightarrow 22$

I: Percentage Change/Profit and Loss

1) Bytes is a shop that sells computers and digital cameras.
In 2003, Bytes sold 620 computers.
In 2004, Bytes sold 708 computers.
Work out the percentage increase in the number of computers sold.

708-620 = 88

$\frac{88}{620} \times 100 = 14.2\%$

2) In April 2004, the population of the European Community was 376 million.
In April 2005, the population of the European Community was 451 million.
Work out the percentage increase in population.
Give your answer correct to 1 decimal place.

451-376 = 75

$\frac{75}{376} \times 100 = 19.9\%$

3) Ishfaq bought a car for £1500 and later sold it for £1350.
What percentage loss did Ishfaq make?

1500-1350 = 150

$\frac{150}{1500} \times 100 = 10\%$

4) Havar bought a car for £8500 and later sold it for £7650.
What percentage loss did Havar make?

8500-7650 = 850

$\frac{850}{8500} \times 100 = 10\%$

5) The table shows the number of mobile phones sold in a shop in April and in May.
Work out the percentage increase in the number of mobile phones sold from April to May.
Give your answer correct to 3 significant figures

April	May
85	91

91-85 = 6

$\frac{6}{85} \times 100 = 7.06\%$

J: Compound interest/Depreciation

1) Toby invested £4500 for 2 years in a savings account.
He was paid 4% per annum compound interest.
How much did Toby have in his savings account after 2 years?

$4500 \times 1.04^2 = £4867.20$

2) The value of a car depreciates by 35% each year.
At the end of 2007 the value of the car was £5460
Work out the value of the car at the end of 2006

$5460 \times 0.65 = £3549$

3) Mario invests £2000 for 3 years at 5% per annum compound interest.
Calculate the value of the investment at the end of 3 years.

$2000 \times 1.05^3 = £2315.25$

4) Derek invests £154 500 for 2 years at 4% per year compound interest.
Work out the value of the investment at the end of 2 years.

$154500 \times 1.04^2 = £167107.20$

5) A company bought a van that had a value of £12 000
Each year the value of the van depreciates by 25%.
Work out the value of the van at the end of three years.

$12000 \times 0.75^3 = £5062.50$

6) Liam invests £6200 for 3 years in a savings account.
He gets 2.5% per annum compound interest.
How much money will Liam have in his savings account at the end of 3 years? $6200 \times 1.025^3 = £6676.72$

7) Toby invested £4500 for 2 years in a savings account.
He was paid 4% per annum compound interest.
How much did Toby have in his savings account after 2 years?

$4500 \times 1.04^2 = £4867.20$

K: Reverse percentages

1) In a sale, normal prices are reduced by 20%.
Andrew bought a saddle for his horse in the sale.
The sale price of the saddle was £220.
Calculate the normal price of the saddle.

220 ÷ 0·8 = £275

2) In a sale, normal prices are reduced by 15%.
The sale price of a CD player is £102
Work out the normal price of the CD player.

102 ÷ 0·85 = £120

3) A garage sells cars.
It offers a discount of 20% off the normal price for cash.
Dave pays £5200 cash for a car.
Calculate the normal price of the car.

5200 ÷ 0·8 = £6500

4) In a sale, normal prices are reduced by 25%.
The sale price of a saw is £12.75
Calculate the normal price of the saw.

12·75 ÷ 0·75 = £17

5) In a sale, normal prices are reduced by 12%.
The sale price of a DVD player is £242.
Work out the normal price of the DVD player.

242 ÷ 0·88 = £275

6) The price of all rail season tickets to London increased by 4%.
After the increase, the price of a rail season ticket from Brighton to London was £2828.80
Work out the price before this increase.

2828.80 ÷ 1·04 = £2720

L: Mid-points and 3D Coordinates

Find the Midpoint of AB for each pair of coordinates:

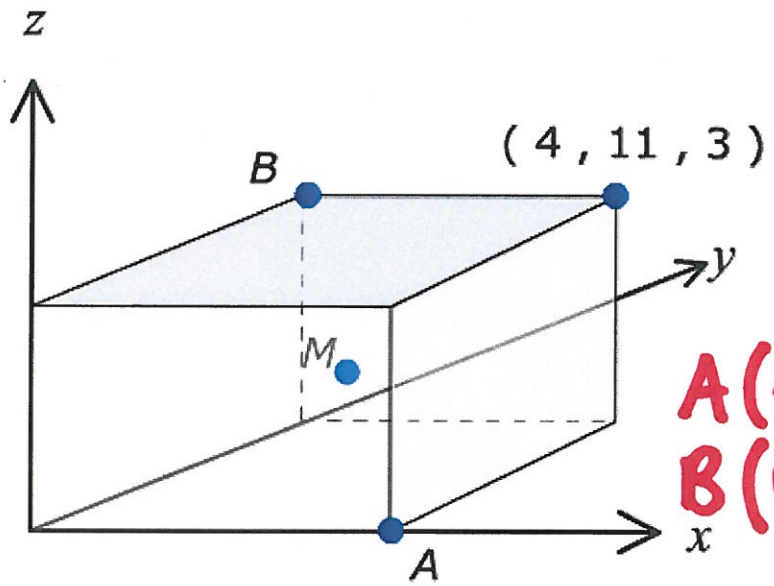
1) $A = (11, 7)$ and $B = (-7, 9)$ (2, 8)

2) $A = (-9, 6)$ and $B = (1, -3)$ (-4, 1·5)

If M is the Midpoint of AB, find the coordinates of A or B:

3) $A = (-7, 6)$ and $M = (3, 3)$ B (13, 0)

4) $M = (3, 9)$ and $B = (5, 7)$ A(1, 11)



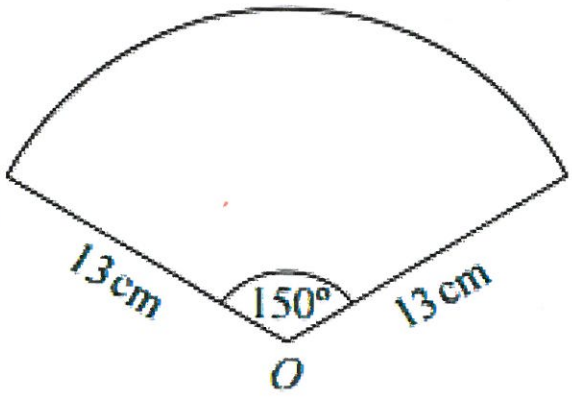
A(4, 0, 0)
B(0, 11, 3)

5) What are the coordinates of A and B?

6) What are the coordinates of the mid-point, M, of AB? (2, 5·5, 1·5)

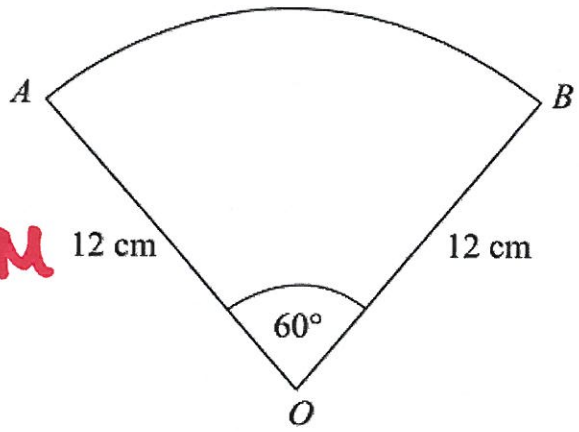
M: Sectors

1) Calculate the area of the sector:



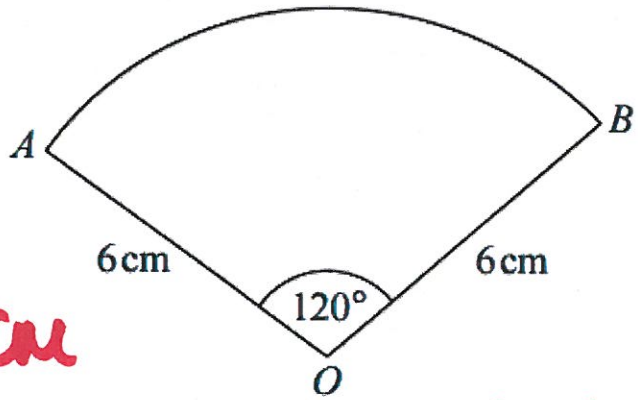
$\frac{150}{360} \times \pi \times 13^2 = 221.2\ cm^2$

2) Work out the arc length AB:



$\frac{60}{360} \times \pi \times 24 = 12.6\ cm$

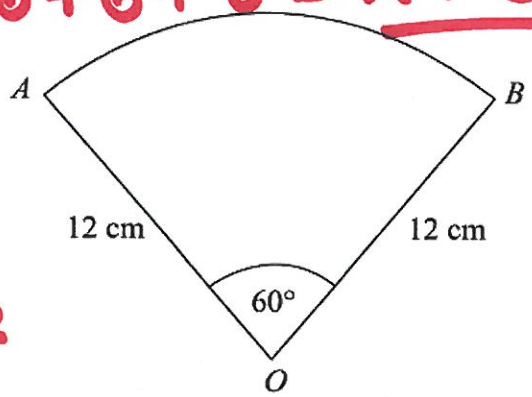
3) Work out the perimeter of the sector:



Arc length $= \frac{120}{360} \times \pi \times 12 = 12.6\ cm$

$12.6 + 6 + 6 = 24.6\ cm$

4) Work out the area of the sector:



$\frac{60}{360} \times \pi \times 12^2 = 75.4\ cm^2$

N: Rearranging formulae

1) Make p the subject of the formula $m = 3n + 2p$

$2p = m - 3n$ $\quad p = \frac{m-3n}{2}$

2) Make c the subject of the formula $a = 3c - 4$

$3c = a + 4$ $\quad c = \frac{a+4}{3}$

3) Make b the subject of the formula $P = 2a + 2b$

$2b = P - 2a$ $\quad b = \frac{P-2a}{2}$

4) Make c the subject of the formula $f = 3c - 4$

$3c = f + 4$ $\quad c = \frac{f+4}{3}$

5) Make t the subject of the formula $u = 7t + 30$

$7t = u - 30$ $\quad t = \frac{u-30}{7}$

6) Rearrange $y = \frac{1}{2}x + 1$ to make x the subject.

$\frac{1}{2}x = y - 1$ $\quad x = 2(y-1)$

7) Make a the subject of the formula $s = \frac{a}{4} + 8u$

$\frac{a}{4} = s - 8u$ $\quad a = 4(s-8u)$

8) Make s the subject of the formula $v^2 = u^2 + 2as$

$2as = v^2 - u^2$ $\quad s = \frac{v^2-u^2}{2a}$

9) Make u the subject of the formula $D = ut + kt^2$

$ut = D - kt^2$ $\quad u = \frac{D-kt^2}{t}$

O: Probability

1) The probability that a biased dice will land on a five is 0.3
Megan is going to roll the dice 400 times.
Work out an estimate for the number of times the dice will land on a five. $0.3 \times 400 = 120$

2) Jack sows 300 wildflower seeds.
The probability of a seed flowering is 0.7
Work out an estimate for the number of these seeds that will flower. $0.7 \times 300 = 210$

3) Four teams, City, Rovers, Town and United play a competition to win a cup. Only one team can win the cup. The table below shows the probabilities of City or Rovers or Town winning the cup.

City	Rovers	Town	United
0.38	0.27	0.15	x

Work out the value of x. $1 - (0.38 + 0.27 + 0.15) = 0.2$

4) There are only red counters, blue counters, white counters and black counters in a bag. The table shows the probability that a counter taken at random from the bag will be red or blue.

Colour	red	blue	white	black
Probability	0.2	0.5		

The number of white counters in the bag is the same as the number of black counters in the bag. $1 - (0.2 + 0.5) = 0.3$

Tania takes at random a counter from the bag.

Work out the probability that Tania takes a white counter. $0.3 / 2 = 0.15$

P: Prime factor form

1) Write 140 as the product of its prime factors. $2^2 \times 5 \times 7$

2) Write 720 as a product of its prime factors. $2^4 \times 3^2 \times 5$

3) Find the Highest Common Factor of 60 and 96. $60 = 2^2 \times 3 \times 5$, $96 = 2^5 \times 3$, $H.C.F = 2^2 \times 3 = \underline{12}$

4) Work out the Lowest Common Multiple of 60 and 96. $L.C.M. = 2^5 \times 3 \times 5 = \underline{480}$

5) Find the Lowest Common Multiple of 120 and 150. $120 = 2^3 \times 3 \times 5$, $150 = 2 \times 3 \times 5^2$, $L.C.M = 2 \times 3 \times 5 = \underline{30}$

6) Express 108 as the product of powers of its prime factors. $2^2 \times 3^3$

7) Work out the Highest Common Factor (HCF) of 24 and 64 $24 = 2^3 \times 3$, $64 = 2^6$, $H.C.F = 2^3 = \underline{8}$

8) Work out the Lowest Common Multiple (LCM) of 24 and 64

$L.C.M = 2^6 \times 3 = \underline{192}$

Q: Solving equations

1) Solve $2t + 8 = 3$ $2t = -5$ $t = -2.5$

2) Solve $5h + 7 = 17$ $5h = 10$ $h = 2$

3) Solve $5w - 6 = 10$ $5W = 16$ $W = \frac{16}{5}$

4) Solve $2q + 7 = 1$

$2q = -6$ $q = -3$

5) Solve $5(t - 3) = 25$

$5t - 15 = 25$ $5t = 40$ $t = 8$

6) Solve $4(5y - 2) = 48$

$20y - 8 = 48$ $20y = 56$ $y = \frac{56}{20} = \frac{14}{5}$

7) Solve $13x + 1 = 11x + 9$

$2x = -8$ $x = -4$

8) Solve $5t - 4 = 3t + 6$

$2t = 10$ $t = 5$

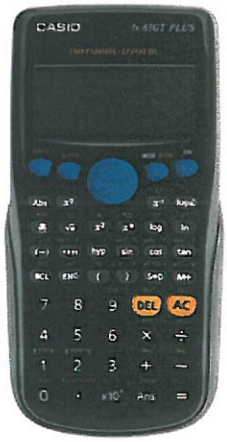
9) Solve $4y + 3 = 2y + 8$

$2y = 5$ $y = 2.5$

10) Solve $2y + 17 = 6y + 5$

$4y = 12$ $y = 3$

R: Calculator use and Rounding



Work out the following.
Write down all the figures
on your calculator display.

Round each answer to one significant figure.

Then round each answer to 2 decimal places.

1

$$(2.3 + 1.8)^2 \times 1.07$$

17.9867

20 (1sf) 17.99 (2dp)

2

$$\frac{4.6 + 3.85}{3.2^2 - 6.51}$$

2.26541555

2 (1sf) 2.27 (2dp)

3

$$\frac{\sqrt{20.4}}{6.2 \times 0.48}$$

1.51768868

2 (1sf) 1.52 (2dp)

4

$$\frac{45.6 \times 123}{0.34^2 - 0.28^2}$$

150774.1935

200000 (1sf) 150774.19 (2dp)

5

$$\frac{\sqrt{2.5^2 + 3.75}}{3.9 - 1.7}$$

1.437398936

1 (1sf) 1.44 (2dp)

6

$$\frac{6.27 \times 4.52}{4.81 + 9.63}$$

1.962631579

2 (1sf) 1.96 (2dp)

S: Inequalities

1) Solve the inequality $7y - 34 \leq 8$

$7y \leq 42$ $y \leq 6$

2) Solve the inequality $4x + 1 > 11$

$4x > 10$ $x > 2.5$

3) Solve the inequality $4t - 5 > 11$

$4t > 16$ $t > 4$

4) Solve $3y - 2 > 13$

$3y > 15$ $y > 5$

5) Solve the inequality $3p - 7 > 11$

$3p > 18$ $p > 6$

6) Solve $2x - 7 \leq 11$

$2x \leq 18$ $x \leq 9$

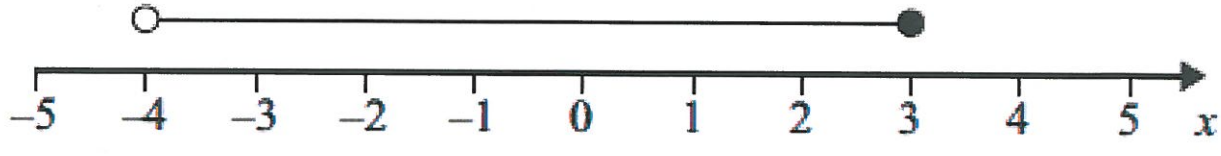
7) Solve the inequality $3(2y + 1) > 10$

$6y + 3 > 10$ $6y > 7$ $y > 7/6$

8) Solve the inequality $4x - 3 < 7$

$4x < 10$ $x < 2.5$

9) Write down the inequality shown:



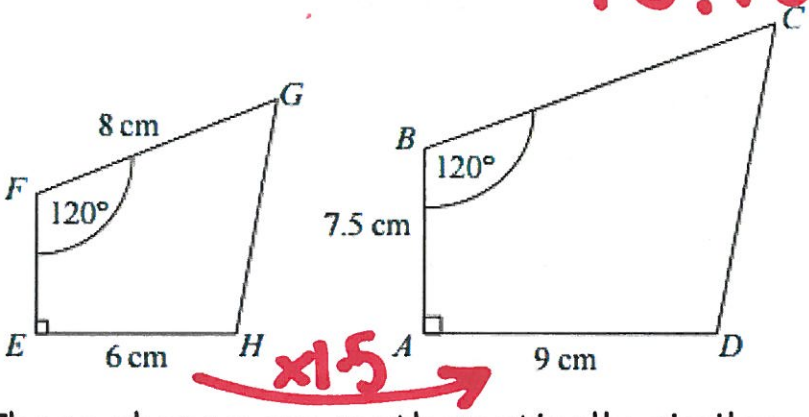
$-4 < x \leq 3$

T: Similar shapes

1) These shapes are mathematically similar.

a) Calculate the length of BC $8 \times 1.5 = 12$ cm

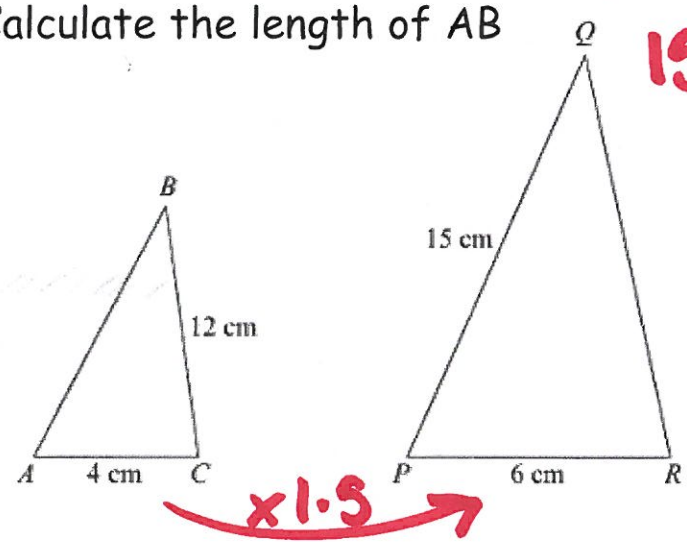
b) Calculate the length of EF $7.5 \div 1.5 = 5$ cm



2) These shapes are mathematically similar

a) Calculate the length of QR $12 \times 1.5 = 18$ cm

b) Calculate the length of AB $15 \div 1.5 = 10$ cm



3) These are similar solids.

Solid A has a volume of $80cm^3$, what is the volume of B? $80 \times 8 = 640$ cm^3

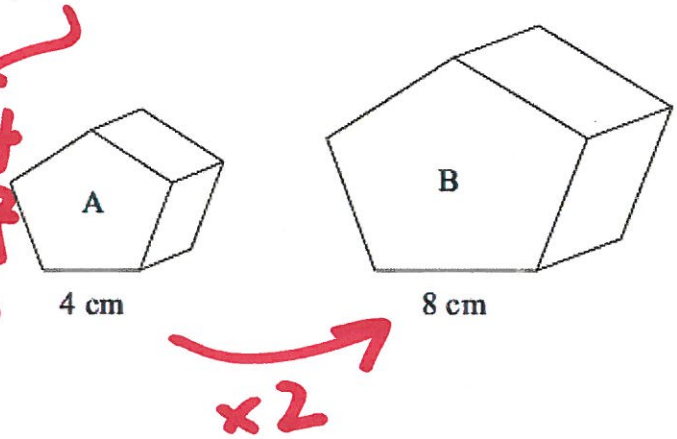
Solid B has a surface area of $160cm^2$, what is the surface area of A?

$160 \div 4 = 40cm^2$

L.S.F. = 2

A.S.F $= 2^2 = 4$

V.S.F. $= 2^3 = 8$



U: Upper and lower bounds

1) The weight of a bag of potatoes is 25 kg, correct to the nearest kg.

(a) Write down the smallest possible weight of the bag of potatoes. 24.5 kg

(b) Write down the largest possible weight of the bag of potatoes. 25.5 kg

2) A field is in the shape of a rectangle.

The length of the field is 340 m, to the nearest metre. The width of the field is 117 m, to the nearest metre.

Calculate the upper bound for the perimeter of the field. 340.5 + 340.5 + 117.5 + 117.5

= 916 m

3) The length of a rectangle is 30 cm, correct to 2 significant figures.

The width of a rectangle is 18 cm, correct to 2 significant figures.

(a) Write down the upper bound of the width. 18.5 cm

(b) Calculate the upper bound for the area of the rectangle 18.5 x 30.5 = 564.25 cm^2

V: Substitution

1

Take **two** 5 m*l* spoons full **twice** a day

You can work out the amount of medicine, c m*l*, to give to a child by using the formula

$$c = \frac{ma}{150}$$

m is the age of the child, in months.
a is an adult dose, in m*l*.

A child is 30 months old.
An adult's dose is 40 m*l*.

Work out the amount of medicine you can give to the child.

$c = \frac{30 \times 40}{150} = \frac{1200}{150}$

$= \frac{120}{15} = \frac{40}{5} = 8$ ml

2

$$A = \frac{h(x+10)}{2}$$

$A = 27$

$h = 4$

Work out the value of x

$27 = \frac{4(x+10)}{2}$

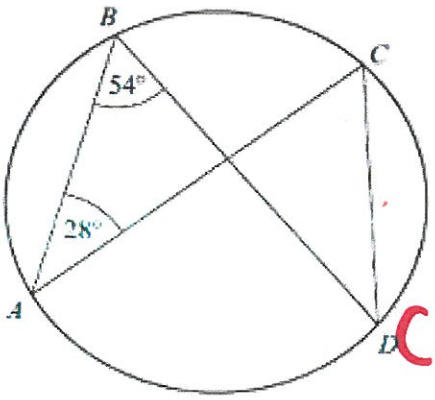
$54 = 4(x+10)$

$54 = 4x + 40$

$4x = 14$

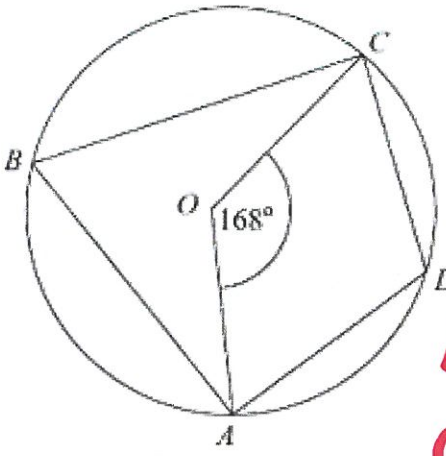
$x = \frac{14}{4} = 3.5$

W: Circle theorems

1) 

What is angle ACD? 54°

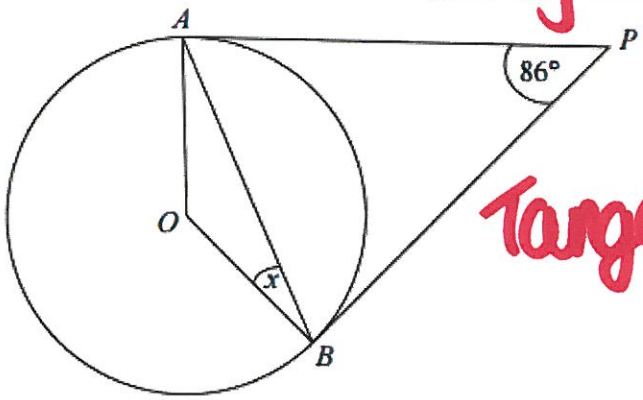
Give a reason for your answer. Angles @ circumference are equal

2) 

What is angle ABC? 84°

Give a reason for your answer.

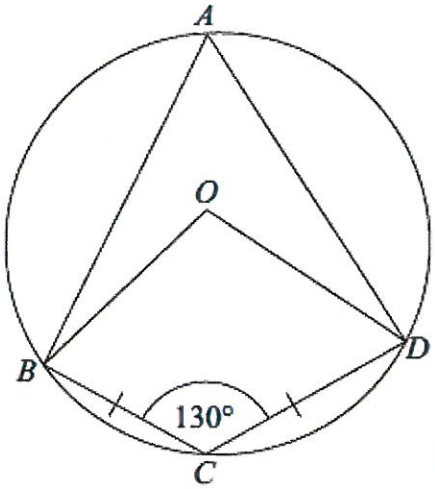
Angle @ centre is twice angle @ circumference

3) 

What is angle OBP? 90°

Tangent meets radius @ 90°

Give a reason for your answer.

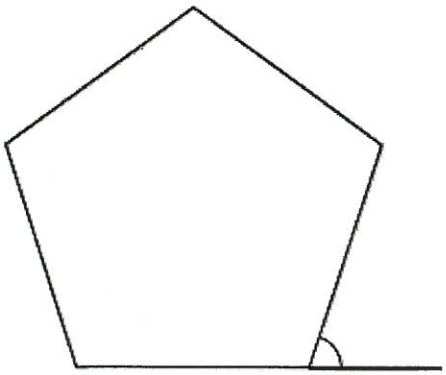
4) 

What is angle BAD? 50°

Give a reason for your answer.

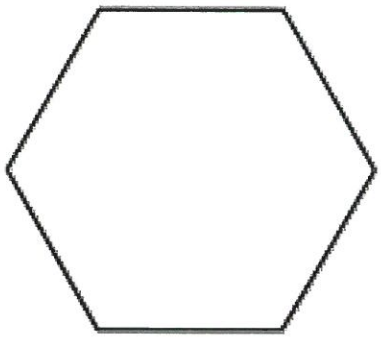
Opposite angles in a cyclic quadrilateral sum to 180°

X: Angles in Polygons

1) 

What is the exterior angle of a regular pentagon?

$\frac{360}{5} = 72°$

2) 

What is the interior angle of a regular hexagon?

$\frac{360}{6} = 60°$ $180 - 60 = 120°$

3) The size of each exterior angle of a regular polygon is 40°.

Work out the number of sides of the regular polygon. $360 \div 40 = 9$

4) The size of each interior angle of a regular polygon is 156°. $180 - 156 = 24$ $\frac{360}{24} = 15$

Work out the number of sides of the polygon.

5) The diagram shows part of a regular 10-sided polygon.

Work out the size of the angle marked x.

$\frac{360}{10} = 36$ $180 - 36 = 144°$

Y: Solve quadratics by factorising

Solve these quadratics by factorising:

$$x^2 - 4x - 45 = 0$$

$(x-9)(x+5)=0$ $x=9$ or $x=-5$

$$x^2 - 7x + 12 = 0$$

$(x-3)(x-4)=0$ $x=3$ or $x=4$

$$x^2 - 3x - 18 = 0$$

$(x-6)(x+3)=0$ $x=6$ or $x=-3$

$$x^2 + 6x + 8 = 0$$

$(x+4)(x+2)=0$ $x=-4$ or $x=-2$

$$x^2 - x - 56 = 0$$

$(x-8)(x+7)=0$ $x=8$ or $x=-7$

$$x^2 + 9x + 20 = 0$$

$(x+4)(x+5)=0$ $x=-4$ or $x=-5$

$$x^2 + 10x + 24 = 0$$

$(x+6)(x+4)=0$ $x=-6$ or $x=-4$

Z: Angles in Parallel Lines

Find the values of the missing angles.

Give reasons for your answers.

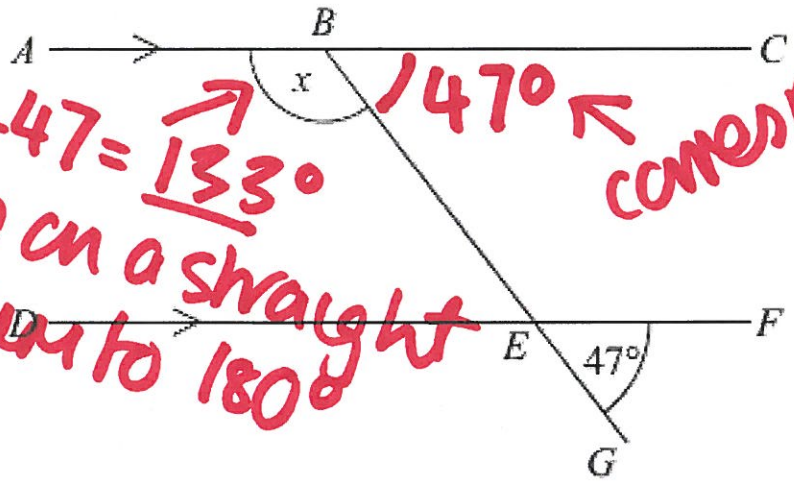


Diagram **NOT** accurately drawn

180-47 = 133° angles on a straight line sum to 180°

147° ← corresponding angles are equal

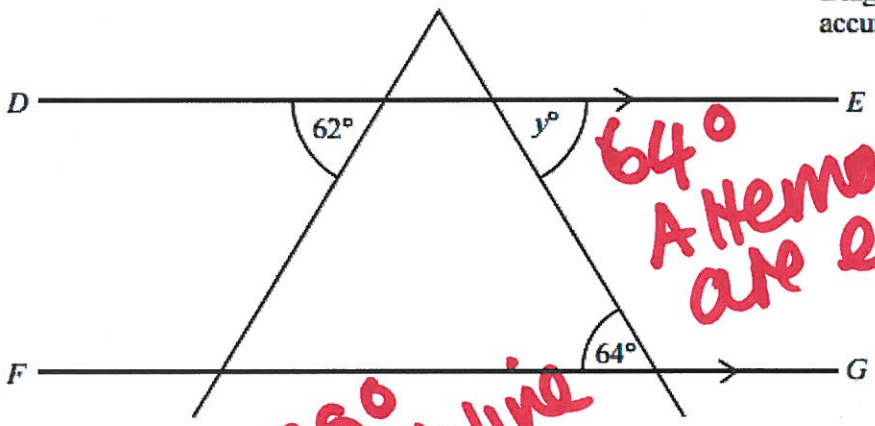


Diagram **NOT** accurately drawn

64° Alternate angles are equal.

180-85 = 95° Angles on a straight line sum to 180°

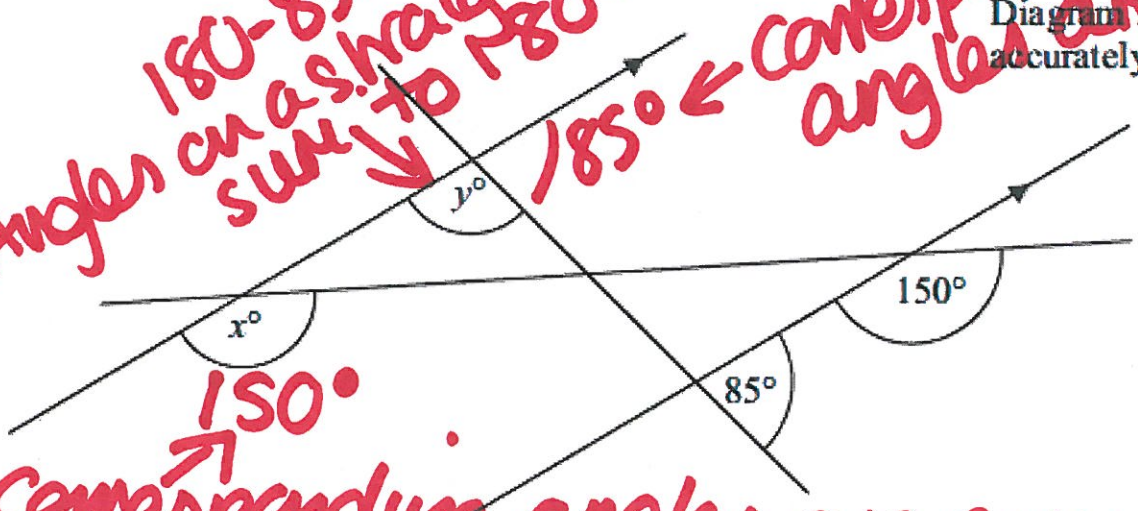


Diagram **NOT** accurately drawn

85° ← Corresponding angles are equal

150° ← Corresponding angles are equal.