British Ramses School

Year 9 Mathematics Summer Homework

Student Name: ----------

Dear Students of Year 9,

I would like to welcome you to the new academic year 2019/2020.

In the British Curriculum, a comprehensive learning approach is followed in which all material studied in Years 1 to 8 is used in Year 9. To help you prepare for the Mathematics course, the attached sheets contain revision over some simple concepts that have been studied in primary and lower secondary stages. Please take this sheet seriously as it will help you to remember the concepts upon which Year 9 material would be built. Do your best in recalling old mathematical concepts by revising the rules written in the sheet, checking old mathematics books or searching the Internet using either google.com or YouTube for excellent explanatory videos.

Notes.

1) Print the sheet and solve in the hard copy itself.
2) The use of calculator is allowed in everything starting year 9 (no more mental math ☺)
3) Use a pen or a pencil and make sure you are organized and final answers are clear.
4) Show your working (steps) for ALL questions.
5) Use $\prod = 3.142$ or calculator key.
6) Solve pages 2 to 25 for practice. Solve quiz 1 in 60 minutes. Solve quiz 2 in 45 minutes.
7) Ensure solving the questions and **checking the answers** from the answer key.
8) If you have any questions in the sheet your may contact any of my assistants via WhatsApp and they would be happy to help you. (*Assistants contacts would be sent later on*)

9) **This sheet is due on the first day of classes (Saturday, September 7th)**
10) **A quiz over the concepts in this sheet would be conducted during the first week of school to ensure that all students are on track.**

11) The mathematics syllabus has been changed this year and many new lessons from year 10 curriculum are added to Year 9 syllabus. As a result, you need to be fully aware of all the concepts in this sheet, as there is no time to go over year 8 lessons again.
12) Year 9 lessons are essential in preparing you for Year 10. Year 10 exam covers both lessons studied in Years 9 and 10.
13) Starting Year 9, students are expected to take **full responsibility** for their learning and studying routines.

If you have any general inquiry concerning the sheet as a whole not a certain question, you may contact me via email dinabasta@yahoo.com

Wishing you all the best and looking forward to having a fruitful academic year.

Ms. Dina Basta

Difference = Big – Small

1) What is the difference in height between a point 16m above sea level and a point 23m below sea level?

2) On a certain day the temperature in Siberia was -38 ^{o}C. On the same day, the temperature in Brazil was 44 ^{o}C. What is the difference between these 2 temperatures?

3) The temperature on a freezer thermometer shows that food is being stored at -20 ^{o}C.
   a) What would the temperature be if it is raised by 5 ^{o}C?

   b) What would the temperature be if it was lowered by 0.5 ^{o}C every hour for 12 hours?

A) Round to the nearest whole number (Approximate)

4) 18.25 = 18

5) 935.6 = 936

6) 7.6 =

7) 7.45 =

8) 7.86 =

9) 7.06 =

B) Round to the nearest ten

10) 215 = 220

11) 849 = 850

12) 111=

13) 4962 =

14) 183647 =

15) 5197 =

C) Round to the nearest hundred

16) 479435 =479400

17) 180002 =180000

18) 5648135 =

19) 456786 =

20) 548349 =

21) 254793 =

D) Round to the nearest thousand

22) 15879 = 16000

23) 479435 =479000

24) 180002 =

25) 58749624 =

26) 7556 =

27) 18903 =

E) Write correct to one decimal place (1 and exactly 1 digit after point)

28) 36.06 = 36.1

29) 43.2987 = 43.3

30) 289.154 =

31) 162.8932 =

32) 144.184 =

F) Write correct to two decimal places

33) 9.323 = 9.32

34) 9.329 = 9.33

35) 6.004 =

36) 42.1604=

37) 162.8932 =

38) 162.8982 =

G) Write correct to three decimal places

39) 52.3004=52.300

40) 54.0484 = 54.048

41) 36.0667 =

42) 43.2987 =

43) 289.1548

44) 24.1857964

Speed = Distance ÷ Time

45) Calculate the average speed of a car that makes a journey of 80 km in 2 hours.

46) How far does a car traveling at an average speed of 75km/h, cover in 2 hours?

47) How long does it take an object to make a journey of 400 km at a speed of 80 km/h?

48) Calculate the average speed of a train that makes a journey of 300 km in 4 hours.

49) Omar travelled from Nairobi to Mombasa by train
The journey took 13h 15 m
The average speed was 40km/h
Work out the distance from Nairobi to Mombasa.

50) Ahmed leaves his house at 8.25 am and arrives at Hurghada at 1.15 pm. How long did his journey take in hours and minutes?

Express in the standard form (scientific notation): **$a \times 10^n$; $1<a<10$**

51) 24 900= 2.49×10^4

52) 0.000 000 42 = 4.2×10^{-7}

53) 65 100 =

54) 72 060 000 =

55) 0.000 46=

56) 0.000 189=

Insert brackets to make the following statement true (you may use more than 1 pair of brackets)

57) $9 + 6 - 3 \div 2 + 4 = 10$

58) $12 - 8 \times 2 = 8$

59) $2 \times 3 + 4 - 5 = 4$

60) $8 + 3 \times 4 - 6 = 2$

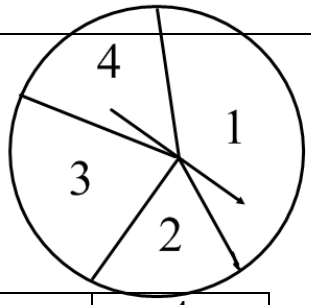
61) $10 - 5 \times 9 + 3 = 60$

62) Write these fractions in order with the smallest first

a) $\frac{1}{3}$ $\frac{3}{10}$ $\frac{9}{28}$

b) $\frac{33}{50}$ $\frac{2}{3}$ $\frac{6}{10}$

63) The diagram shows a pointer which spins about the center of a fixed disc.



When the pointer is spun, it stops on one of the numbers 1, 2, 3 or 4.
The probability that it will stop on one
of the numbers 1 to 3 is given in the table.

Number	1	2	3	4
Probability	0.35	0.16	0.27	

Magda is going to spin the pointer once.
(a) Work out the probability that the pointer will stop on 4.

(b) Work out the probability that the pointer will stop 1 or 3

Omar is going to spin the pointer 75 times
(c) Work out an estimate for the number of times the pointer will stop on 2.

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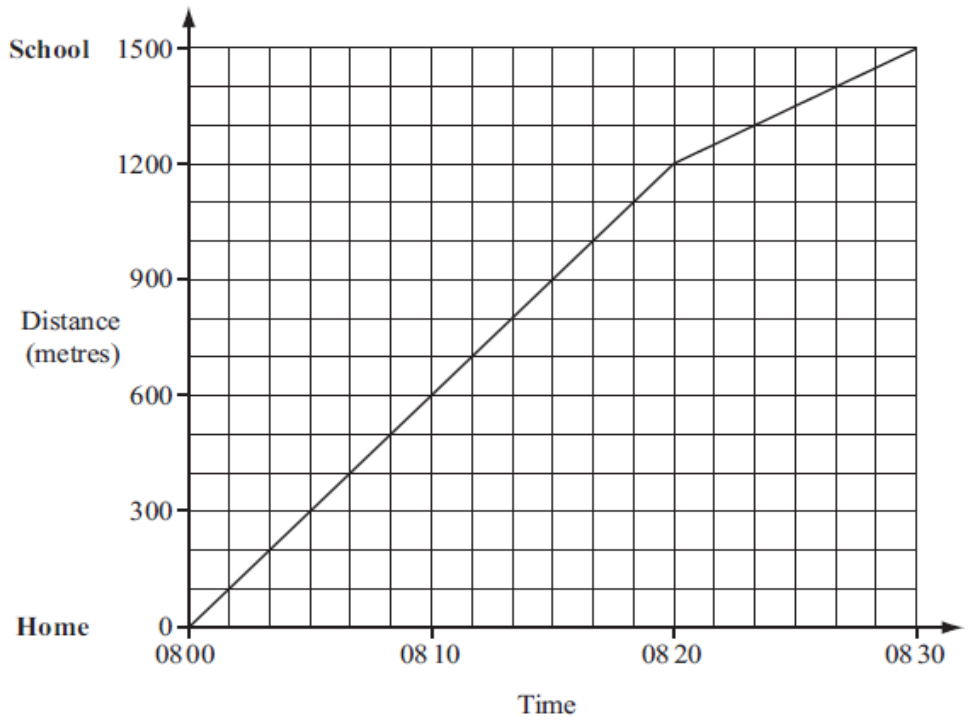
64) .



The travel graph shows Maria's walk to school one Monday morning.

(a) Calculate her speed during the first 20 minutes

(i) in metres / minute,

Answer(a)(i) ..... m / min [1]

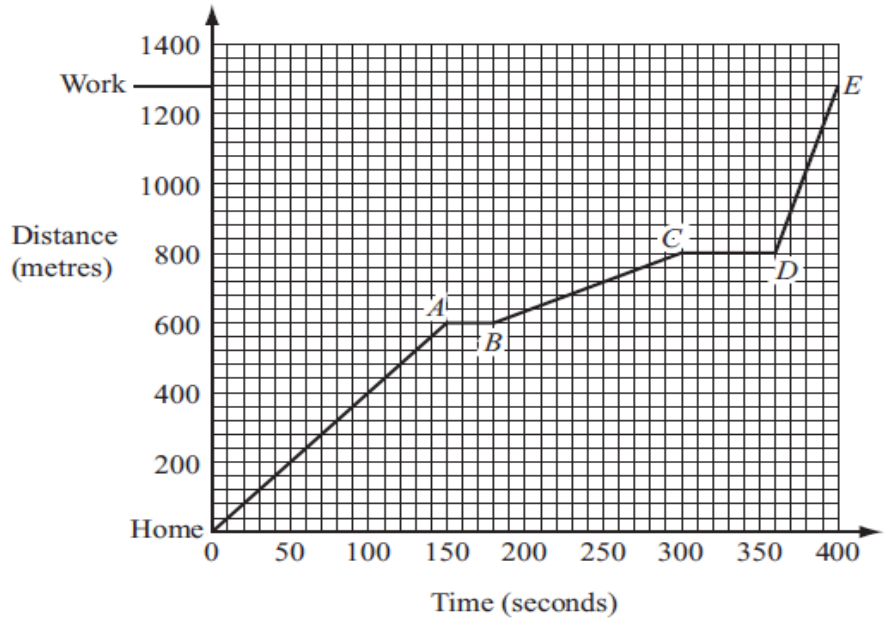
(ii) in kilometres / hour.

Answer(a)(ii) ..... km / h [2]

(b) Calculate the average speed of her walk from home to school in kilometres / hour.

Answer(b) ..... km / h [2]

65) .



The graph shows the distance travelled by a cyclist on a journey from Home to Work.

(a) The cyclist stopped twice at traffic lights.

For how many seconds did the cyclist wait altogether?

Answer(a) ..... s [2]

(b) For which part of the journey did the cyclist travel fastest?

Answer(b) ..... [1]

(c) **(i)** How far did the cyclist travel from Home to Work?

Answer(c)(i) ..... m [1]

(ii) Calculate the cyclist's average speed for the whole journey.

Answer(c)(ii) ..... m/s [3]

Write the following numbers as a product of prime numbers (use the stick method)

66) Example: 40 = 2 x 2 x 2 x 5

67) 33 =

68) 2007=

69) 96=

70) Admission to the museum is $12. Students receive a 20% discount. How much is the discount? How much do students pay?

71) A $350 car was on sale for 45% off. Find the sale price.

72) A video game has a 70% markup. The actual cost is $9. What is the selling price?

73) Find the slope (gradient) of the straight line that passes through the points (4, 12) and (7, 21)

Put in simplest Form:

74) $a^2 \times a^5 =$

75) $5y^2 \times y^6 =$

76) $5y^5 \times 3y^2 =$

77) $3a^2 b \times a^4 b^2 =$

78) $c^6 \div c^{-9} =$

79) $9y^3 \div 3y =$

80) $12\ p^4 \div 4\ p^3 =$

81) $(2x^2)^2 =$

82) $4a^0 =$

83) $(7b)^0 =$

84) $3\ (y + 7) - 2\ (4y - 5) =$

85) $5y - 3 + 3\ (4y - 2) =$

86) $t(\ 3t + 2) - (5t - 4\ ) + 7 =$

87) $3ab(2a - 2b + 5ab^2 - 6) =$

88) $3x\ (2x - 4y) - 2x\ (2x + 3y) + 6 =$

89) $(x + 1)\ (x + 5) =$

90) $(4a + 3)\ (3a - 5) =$

91) $(6c - 4)(7c + 5) =$

92) $(x - 7)^2 =$

Solve the following equations (Find the value of the unknown)

93) $7x - 3 = 3x + 8$

94) $3(y + 2) = 2(y - 1)$

95) $3(x + 1) - 4 = 2(x + 4)$

96) $2(x + 1) = 7 - 3(x-1)$

97) $9(2x - 4) = 16x + 12$

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

99) $\frac{2}{3}d - 4 = 13$

100) $5x - 2 = 10x - 8.$

101) $\frac{x}{7} = \frac{10}{5}$

102) $\frac{x}{3} = \frac{48}{x}$

103) $\frac{3}{14} = \frac{y-2}{21}$

104) $\frac{r+7}{4} = 5.$

105) $\frac{10}{x} = \frac{x}{40}$

106) $\frac{3}{10} = \frac{x+7}{20}$

107) $\frac{7y}{10} = \frac{21}{3}$

Write and solve an equation for each of the following statements.

108) 21 less than 5 times a number is 9

109) 10 times a number is the same as 49 added to 9 times the same number.

110) 81 more than 17 times a number is equal to 8 times the number.

111) 6 less than twice a number is 8 more than 6 times the number.

112) When a number is multiplied by 2 and added to 4, the result is 82.

113) The result of subtracting 5 from three times a number is 19.

114) When a certain number is multiplied by 20; the result is the same as when the number is decreased by 38.

115) A rough rule for changing temperature in degree Celsius (^oC) to degrees Fahrenheit (^oF) is $F = 2C + 30$

a. Find the value of F when C = 25

b. Find the value of C when F = 20

116) When Jon opened a packet containing 30 biscuits, he found that 3 biscuits were broken. What percentage of the biscuits were broken?

117) A juicer holds $43\frac{3}{4}$ liters of juice. How many $1\frac{1}{4}$ liters bottles can be filled with that much juice?

118) A packet of sweets costs \$2.45.
Felipe and his brother share the cost in the ratio 4 : 3. How much does Felipe pay?

119) Write 8 m to 60 cm as a ratio in its simplest form.

120) Juanita changed \$20 into euros when the exchange rate was €1=\$1.2685.
How many euros did she receive? Give your answer correct to 2 decimal places.

121) In 2005, a toy cost 52.50 reals in Brazil. In Argentina, 1 peso = 0.875 reals. Work out the cost of the toy in pesos.

*The **mean (average)** is the sum of the values in the set divided by the number of values in the set.*
*The **median** is the middle value when the values are arranged in ascending order, or the mean of the two middle values if there are an even number of values.*
*The **mode (model)** is the value or values that occur most often.*
*The **range** of a set of data is the difference between the least and greatest values in the set.*

122) ***Find the mean median mode for the following set of data***
12 1 10 1 9 3 4 9 7 9

Factorise Completely

Examples

123) $18p^3q + 4p^2 q^5 = 2p^2 q (9p + 2q^4)$ Factorization by highest common factor

124) $25x^2 - 75x =$

125) $l0sa + 15ta + 20ua =$

126) $l6yz - 4y =$

127) $15t^2 + 5t =$

128) $4t^3 + 8t^2 + 4t =$

129) $3x^2 - 9x + 3 =$

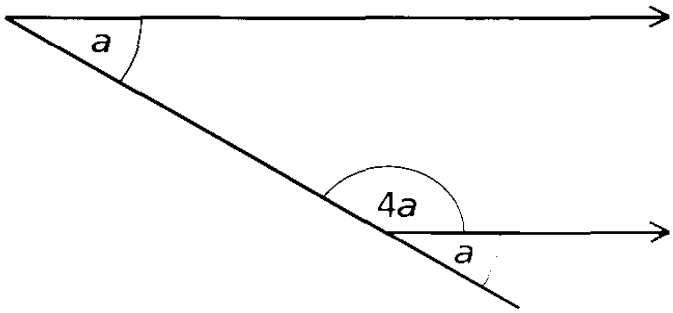
130) $t^2 - 2t =$

131) $l2pq - 9qr =$

132) $6mp - 12p =$

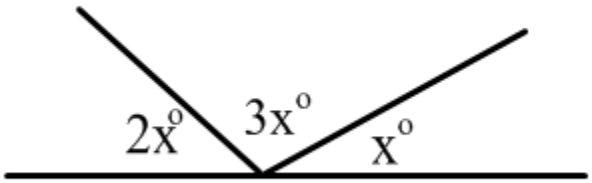
Geometry Revision

1) Find the unknown angles measures.

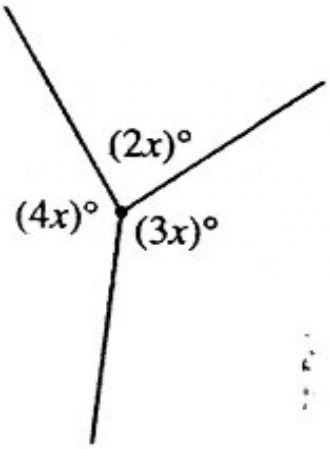


2) Find x

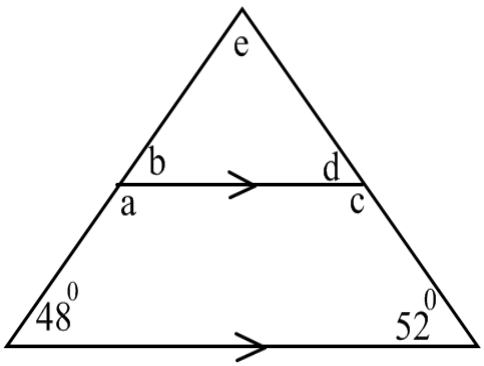
a)



b)



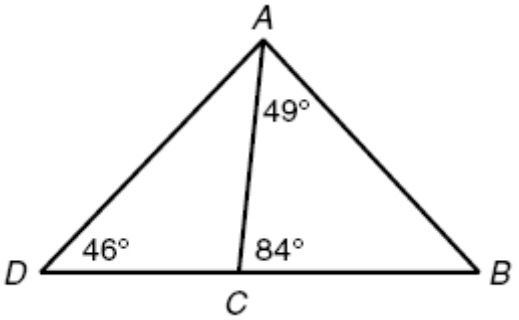
3) Find all missing angles



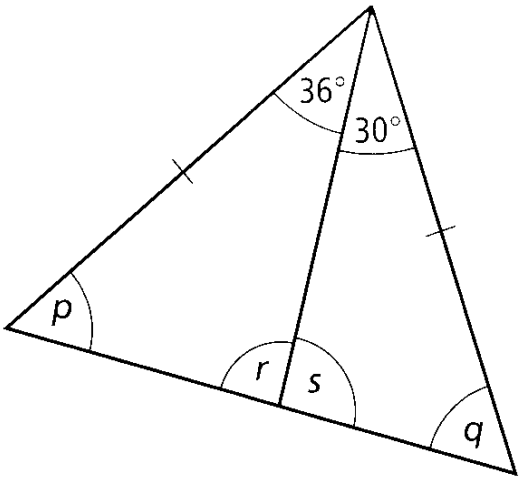
4) <ABC

5) < DAC

6) <ACD



7) P= q= , r= , s=



8) Find the perimeter and area of a square with side length of 8m.

9) Find the side length of a square with area 60cm^2.

10) Find the length of a rectangle with perimeter of 3.6 m and breadth of 60cm.

11) The area of a triangle is 10 m^2. If the base of the triangle is 5 m, what is the height of the triangle?

12) Find the perimeter of a rectangle with area = 12m^2 and height 6 m.

13) Find the base of triangle with height of 7.5 cm and area 23.625 cm^2

14) Find the circumference and area of a circle with radius 3 m.

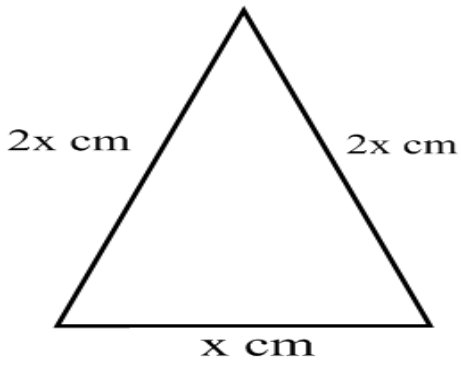
15) Find the circumference and area of a circle with diameter 4 cm.

16) Find the circumference of a circle with area 50.272 m^2.

17) Find the area of a circle with circumference 40.846 m.

18) Find the circumference of a circle with area 113.112 cm^2.

19) A triangle has two equal sides of length 2x cm and one side of length x cm.



The perimeter of this triangle is 12 cm.
(a) Use this information to write down an equation in x.

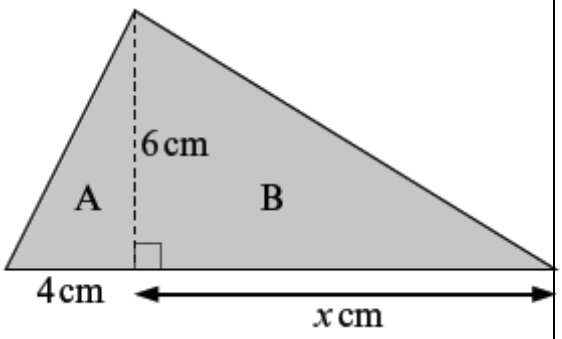
(b) Solve your equation to find the value of x.

20) Triangle B has double the area as triangle A

a) Calculate the area of triangle A

b) What is the area of triangle B

c) Calculate the value of x.

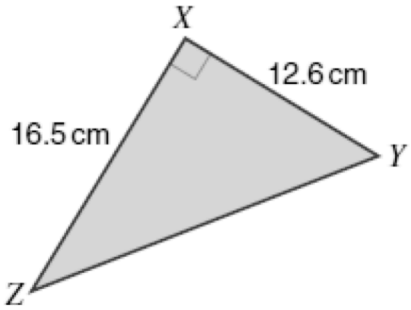


21) XYZ is a right triangle at X

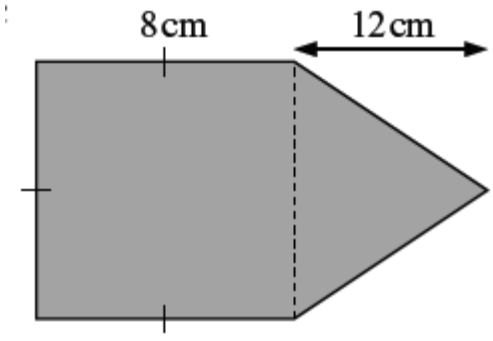
a) Find the length of side YZ

b) Find the perimeter of the triangle XYZ

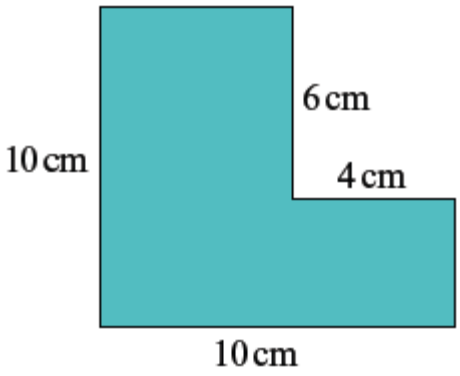
c) Find the area of the triangle XYZ



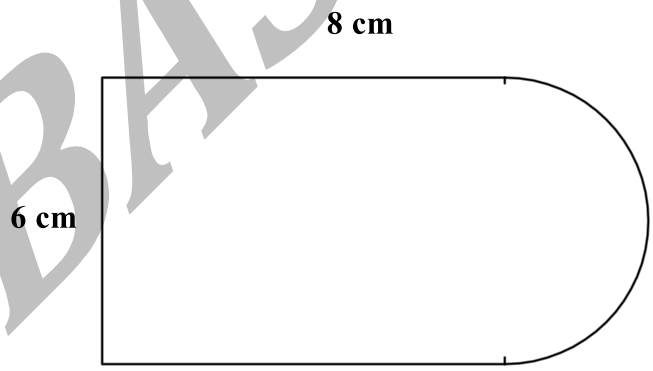
22) Find the area



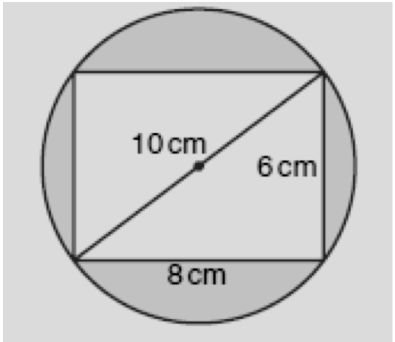
23) Find the area



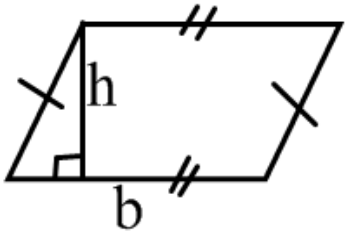
24) Find the perimeter and area of the figure

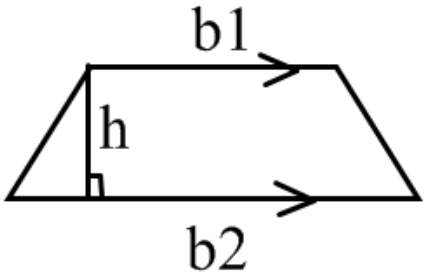


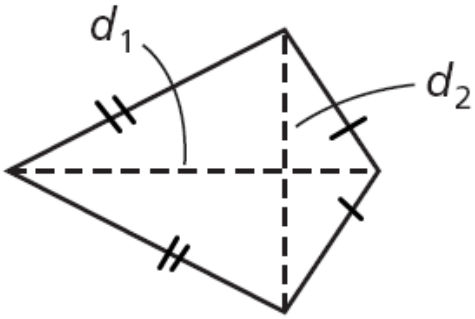
25) The diagram shows a 8 cm by 6 cm rectangle inside a circle of diameter 10 cm.
Work out the area of the **shaded** part of the diagram.



Parallelogram ***Trapezium*** ***Kite***

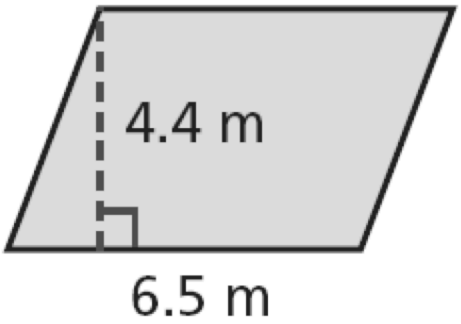


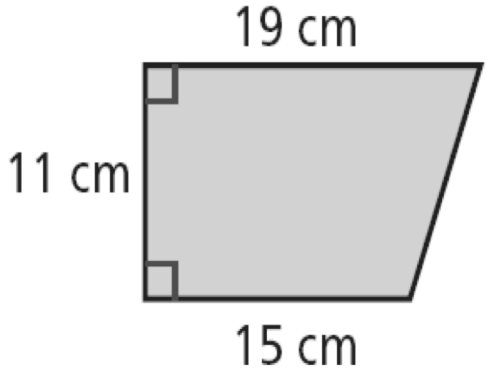




$A = bh$ $A = \frac{(b_1 + b_2)h}{2}$ $A = \frac{d1d2}{2}$

26) Calculate the area of each of these parallelograms and trapeziums.





27) Find the area of a kite with the lengths of the 2 diagonals is 4 m and 6 m.

28) The diagram shows a paved surface.
All the corners are right angles.
Work out the area of the paved surface.
State the units of your answer.

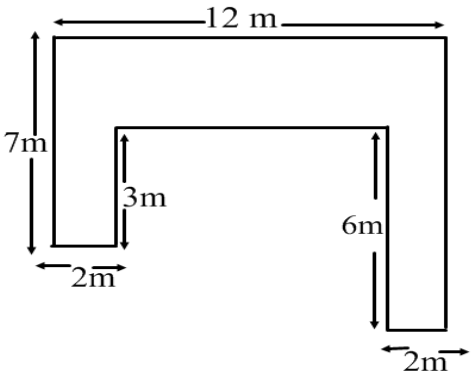


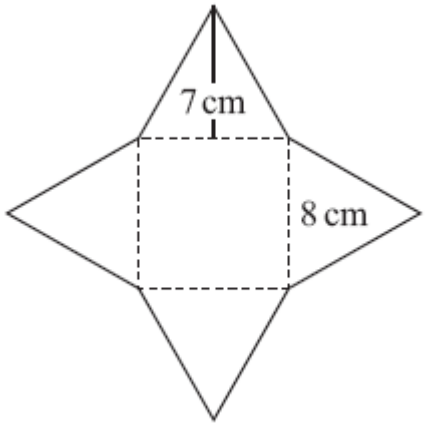
Diagram NOT Accurately Drawn

29) The diagram shows a square of side 8 cm and four congruent triangles of height 7 cm.

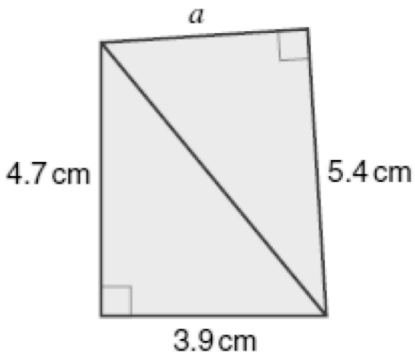
Calculate

(i) The area of one triangle,

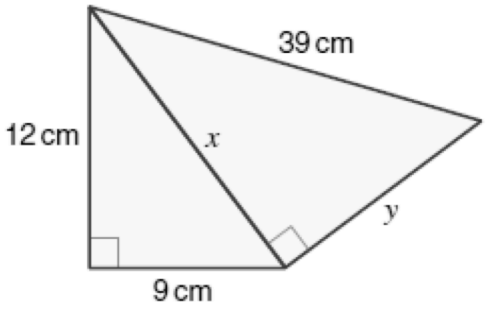
(ii) The area of the whole shape.



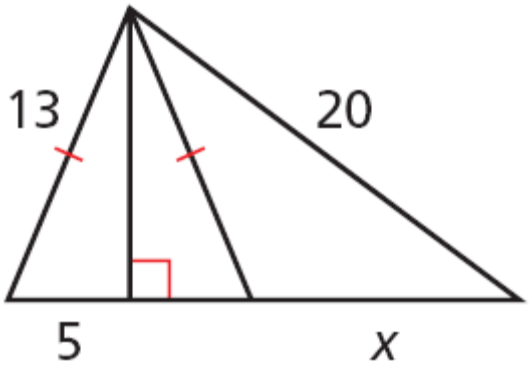
30) Find a



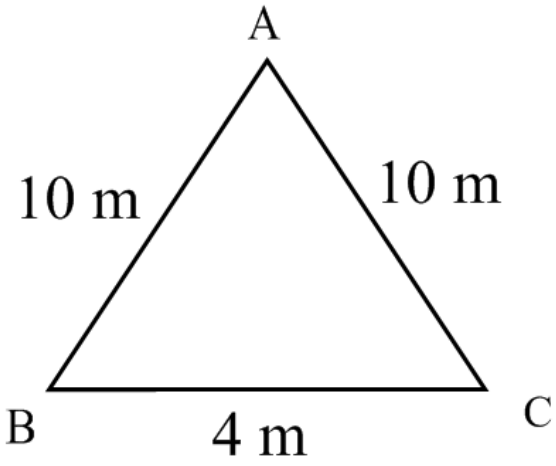
31) ***Find x and y***



32) *Find x



33) Find the perimeter and area of the triangles (Hint: use Pythagoras to get the missing height)

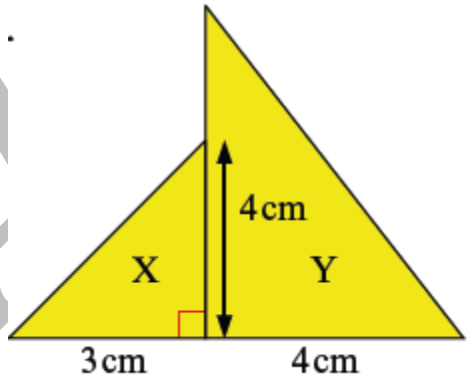


34) The area of triangle Y is three times the area of triangle X

a) Find the area of triangle X.

b) What is the area of triangle Y

c) Calculate the height of triangle Y.

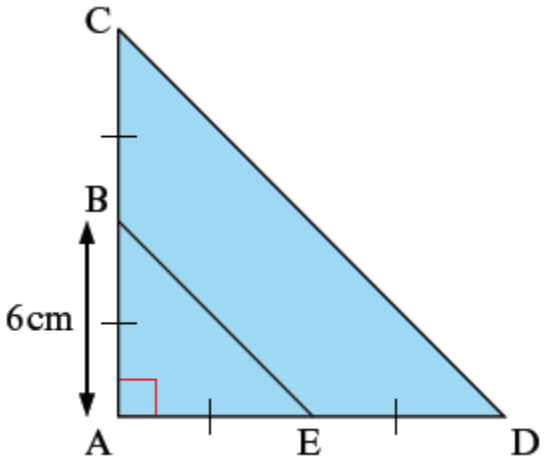


35) Look at this diagram

a) Calculate the area of triangle ABE

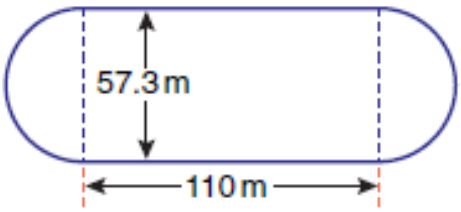
b) Calculate the area of triangle ACD

c) Calculate the are of trapezium BCDE



36) For the shape shown

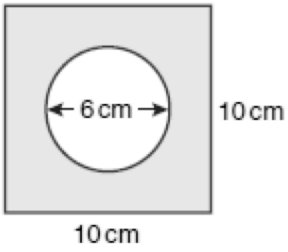
a. Find the perimeter



b. Find the area

37) The diagram shows a circle of diameter 6 cm inside a square of side 10 cm.

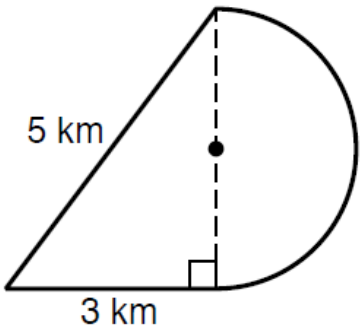
a. Work out the area of the square.

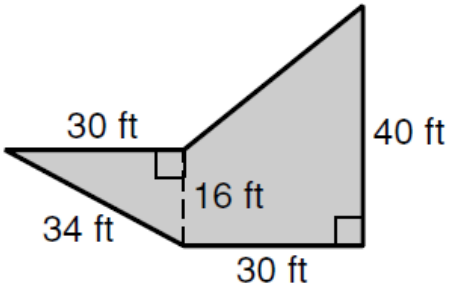


b. Work out the area of the circle.

c. By subtraction work out the area of the shaded part of the diagram.

38) **Find the area of the following shapes**





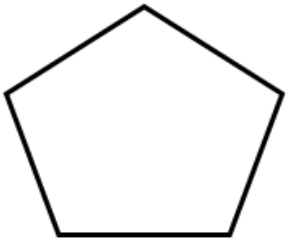
Angles in ***regular polygons*** with n sides

Sum of the interior angles = 180 (n – 2)

$$\text{Interior Angle} = \frac{180(n-2)}{n}$$

39) Find the sum of interior angles of each of the regular polygons shown below and the measure of one of the interior angles.

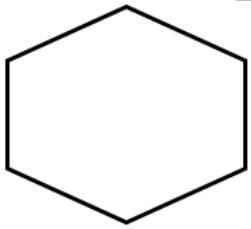
a) regular pentagon



Sum: ----------

Interior Angle: ----------

b) regular hexagon

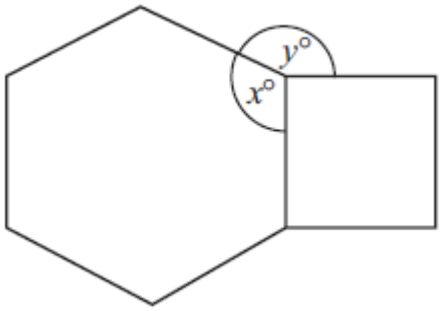


Sum: ----------

Interior Angle: ----------

40) Find the sum of the interior angles of a 13–sided polygon.

41) The diagram shows a regular hexagon and a square.

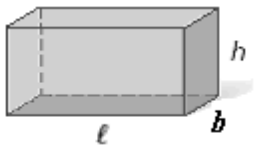


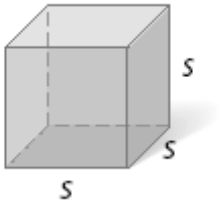
NOT TO SCALE

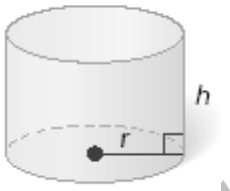
Calculate the values of x and y.

Solids

Rectangular Prism (Cuboid) ***Cube*** ***Cylinder***





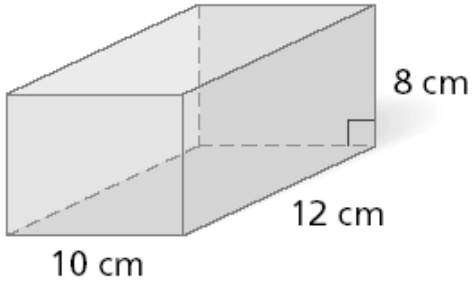


$V = lbh$ $V = s^3$ $V = \prod r^2 h$

$T.S.A. = 2lb + 2hb + 2hl$ $T.S.A = 6s^2$

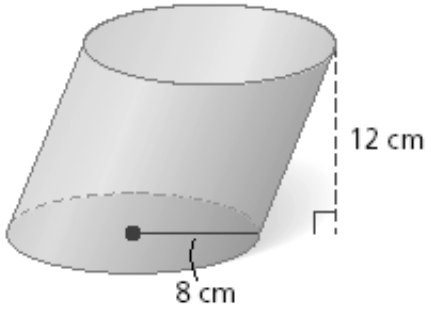
Find the volume and total surface area of each of the following figures.

42) Cuboid shown



43) A cube with edge length of 10 cm.

44) Find the volume of the Cylinder shown



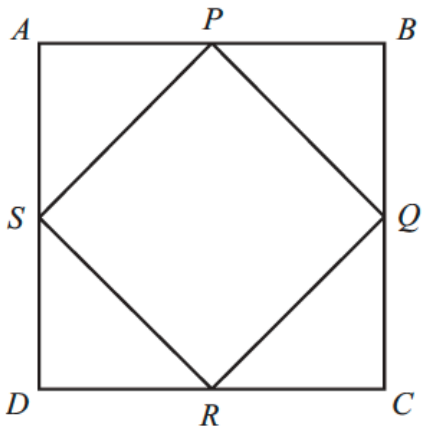
45) Find the length of a rectangular solid prism that has a width of 4 cm, height of 8 cm and volume of 192 cm^3.

46) Find the side length of a cube with volume 125 m^3.

47) Find the radius of a cylinder that has a height = 8 ft and volume = 226.224 ft^3

48) .

A square *ABCD*, of side 8 cm, has another square, *PQRS*, drawn inside it.
P,*Q*,*R* and *S* are at the midpoints of each side of the square *ABCD*, as shown in the diagram.



NOT TO SCALE

(a) Calculate the length of *PQ*.

Answer (a) ..... cm [2]

(b) Calculate the area of the square *PQRS*.

Answer (b) ..... cm^2 [1]

Quiz 1

1) Work out the value of

$$\frac{11+4\times7}{3}.$$

Answer---------- [1]

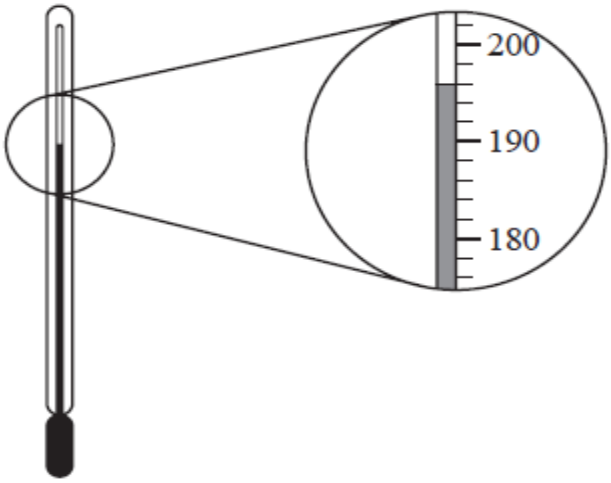
2) A train leaves Paris at 10 56 and arrives in Marseille at 13 12.

How long does the journey take?

Give your answer in hours and minutes.

Answer h-------- min---------- [1]

3)



The diagram above shows part of a thermometer which measures the temperature in ºC inside an oven. What is the temperature in the oven?

Answer---------- °C [1]

4) When Jon opened a packet containing 30 biscuits, he found that 3 biscuits were broken.

What percentage of the biscuits were broken?

Answer ----------% [1]

5) Write the following in order, starting with the smallest.

0.35 33% $\frac{1}{3}$

Answer -------- < ------- <------- [1]

6) In May, the average temperature in Kiev was 12 ºC.

In February, the average temperature was 26 ºC lower than in May.

What was the average temperature in February?

Answer ----------°C [1]

7) Write 0.00362 in standard form.

Answer---------- [1]

8)

For the diagram above, write down the number of lines of symmetry,

Answer(a) ---------- [1]

9) * Rehana pays $284 in tax.

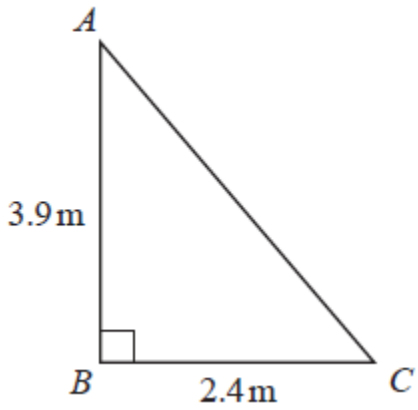
This is $\frac{2}{9}$ of the money she earns.

How much does Rehana earn?

Answer $---------- [2]

10).

NOT TO SCALE



ABC is a right-angled triangle.

AB = 3.9 m and BC = 2.4 m.

Calculate the length of AC.

Answer AC =---------- m [2]

11) A packet of sweets costs $2.45.

Felipe and his brother share the cost in the ratio 4 : 3.

How much does Felipe pay?

Answer $---------- [2]

12) (a) There are 11 boys and 13 girls in a choir.
The teacher chooses one choir member at random.
What is the probability that this is a girl?
Write your answer as a fraction.

Answer(a) ---------- [1]

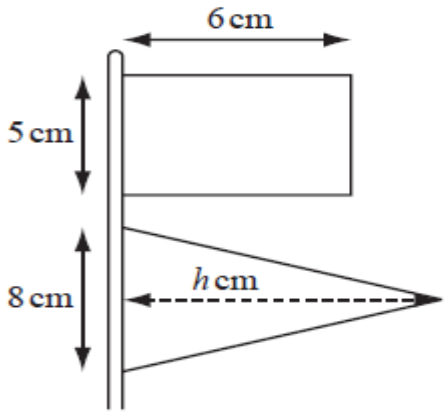
(b) The probability that Carla arrives at school before 08 00 is $\frac{9}{20}$

What is the probability that Carla does not arrive before 08 00?
Write your answer as a fraction.

Answer(b) ---------- [1]

13)

NOT TO SCALE



A model ship is flying two flags.
The first is a rectangle 5 centimetres by 6 centimetres.
The second is an isosceles triangle with base 8 centimetres and height h centimetres.
The flags are equal in area.
Find the value of h.

Answer h =---------- [2]

14) Find the circumference of a circle of radius 5.7 cm.
Write down your answer
(a) exactly as it appears on your calculator,

Answer(a) ----------cm [1]

(b) correct to the nearest centimetre.

Answer(b) ---------- cm [1]

15) (a) When x = −3 and y = 4, find the value of

(i) x^3

Answer(a)(i) ---------- [1]

(ii) xy^2

Answer(a)(ii) ---------- [1]

(b) Simplify $\frac{Z^{-1}}{Z^{-2}}$

Answer(b) ---------- [1]

16)

$\sqrt{20}$ $\sqrt{4}$ $\sqrt{14}$ $\sqrt{36}$ $\sqrt{64}$ $\sqrt{81}$ $\sqrt{100}$

From the list above, write down

(a) a prime number,

Answer(a) ---------- [1]

(b) a factor of 27,

Answer(b) ---------- [1]

(c) a multiple of 4,

Answer(c) ---------- [1]

(d) **an irrational number. *(look up on the internet to learn what is meant by irrational number)*

Answer(d) ---------- [1]

17) A shop sells batteries at 68 cents each, or $2.15 for a pack of four.
How much will Daniel save if he buys two packs of four instead of 8 single batteries?

Answer $---------- [2]

18) Factorise completely $6x - 9x^2y$.

Answer---------- [2]

19) Alphonse, his wife and child fly from Madrid to the Olympic Games in Beijing.

The adult plane fare is 450 euros.
The child fare is 68% of the adult fare.
(a) Show that the total plane fare for the family is 1206 euros. Show all your working clearly.

Answer (a) ---------- [3]

(b) The ratio of the money spent on plane fares : accommodation : tickets = 6 : 5 : 3.
Calculate the total cost.

Answer(b) ---------- euros [3]

(c) Alphonse changes 500 euros into Chinese Yuan at a rate of 1 euro = 9.91 Chinese Yuan.
How many Chinese Yuan does he receive?

Answer(c) ---------- Yuan [2]

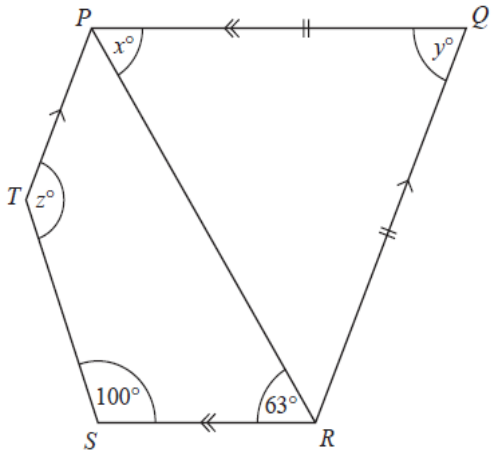
(d) Their plane leaves Madrid at 05 45. The journey takes 11 hours 35 minutes.
Beijing time is 6 hours ahead of Madrid time.
Find the time in Beijing when they arrive.

Answer(d) ---------- [2]

20) (a) In the diagram PQ is parallel to SR, and QR is parallel to PT.
PQ = QR, angle PRS = 63° and angle RST = 100°.

Find the value of

NOT TO SCALE



(i) x,

Answer(a)(i) x = ---------- [1]

(ii) y,

Answer(a)(ii) y = ---------- [2]

(iii) z.

Answer(a)(iii) z = ---------- [2]

21) (a) Solve the equations

(i) $3x - 4 = 14$,

Answer(a)(i) x = ---------- [2]

(ii) $\frac{y+1}{5} = 2$

Answer(a)(ii) y = ---------- [2]

(iii) $3(2z - 7) - 2(z - 3) = -9$.

Answer(a)(iii) z = ---------- [3]

(b) Donna sent p postcards and q letters to her friends.

(i) The total number of postcards and letters she sent was 12.
Write down an equation in p and q.

Answer(b)(i) ---------- [1]

(ii) A stamp for a postcard costs 25 cents and a stamp for a letter costs 40 cents.
She spent 375 cents on stamps altogether.
Write down another equation in p and q.

Answer(b)(ii) ---------- [1]

(iii) Solve these equations to find the values of p and q.

Answer(b)(iii) p = ----- and q = ------ [3]

Quiz 2

1) Write down a multiple of 4 and 14 which is less than 30.

Answer ----------[1]

2) **Simplify**

(a) $7b^4$ (5b – 8a)

Answer(a) ---------- [2]

(b) $q^4 \times q^7$

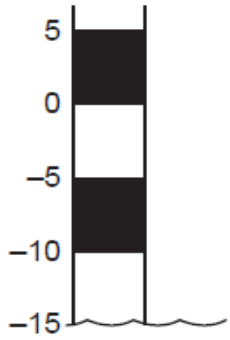
Answer(b) ---------- [1]

(c) $(r^2)^{-3}$

Answer(c) ---------- [1]

---

3) On 1st August the level of water in a lake was −15 metres.
A month later the level was 2 metres higher.
Write down the new level of water.



Answer ----------m [1]

---

4) The area of a square is $42.25cm^2$.
Work out the length of one side of the square.

Answer ----------cm [1]

---

5) Expand the brackets and simplify $5x - 6(3x - 2)$.

Answer---------- [2]

---

6) The scale on a map is 1:250 000. *For*
A road is 4.6 centimetres long on the map.
Calculate the actual length of the road in kilometres.

Answer---------- km [2]

7) > = <

Choose one of the symbols above to complete each of the following statements.

(a) 74% ---------- $\frac{5}{7}$

[1]

(b) $\left(\frac{1}{2}\right)^{-3}$ ---------- 8

[1]

---

8) Juanita changed $20 into euros . The exchange rate was €1=$1.2685.
How many euros did she receive?
Give your answer correct to 2 decimal places.

Answer €---------- [2]

---

9) Solve the equation $5x + 2 = 53$.

Answer x =---------- [2]

---

10)

The table below is part of a bus timetable

City centre	11 15	12 30	13 10	13 40
Heatherton	11 25	12 40	13 20	13 50
Rykneld	11 29	12 44	13 24	13 54

(a) The 11 15 bus left the City centre on time and arrived at Rykneld 2 minutes early.
How many minutes did it take to reach Rykneld?

Answer(a) ----------min [1]

(b) Paulo walked to the bus stop at Heatherton and arrived at 1256.
The next bus arrived on time.
How many minutes did Paulo wait for the bus?

Answer(b) ---------- min [1]

12) Write 0.00578

(a) in standard form,

Answer(a) ---------- [1]

(b) correct to 2 significant figures,

Answer(b) ---------- [1]

(c) correct to 2 decimal places.

Answer(c) ---------- [1]

---

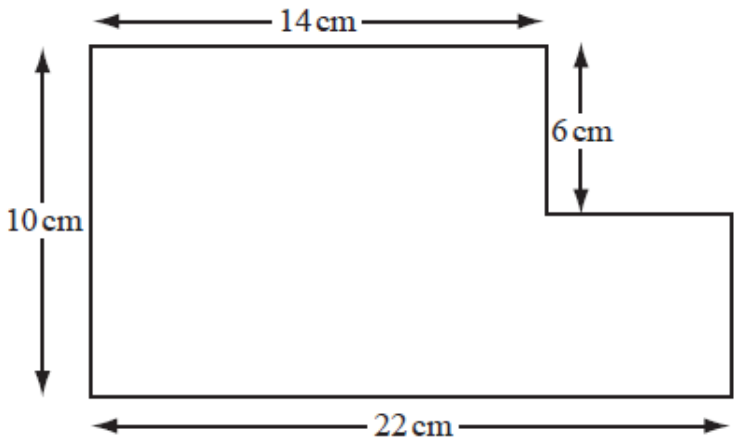
13) Without using your calculator, work out $\frac{5}{8} \div 3\frac{3}{4}$.

Give your answer as a fraction in its lowest terms.
You must show **all** your working.

[3]

---

15)



NOT TO SCALE

For the shape above, work out

(a) the perimeter,

Answer(a) ---------- cm [2]

(b) the area.

Answer(b) ---------- cm^2 [2]

16) (a) Calculate the volume of a cylinder of radius 50cm and height 138 cm.

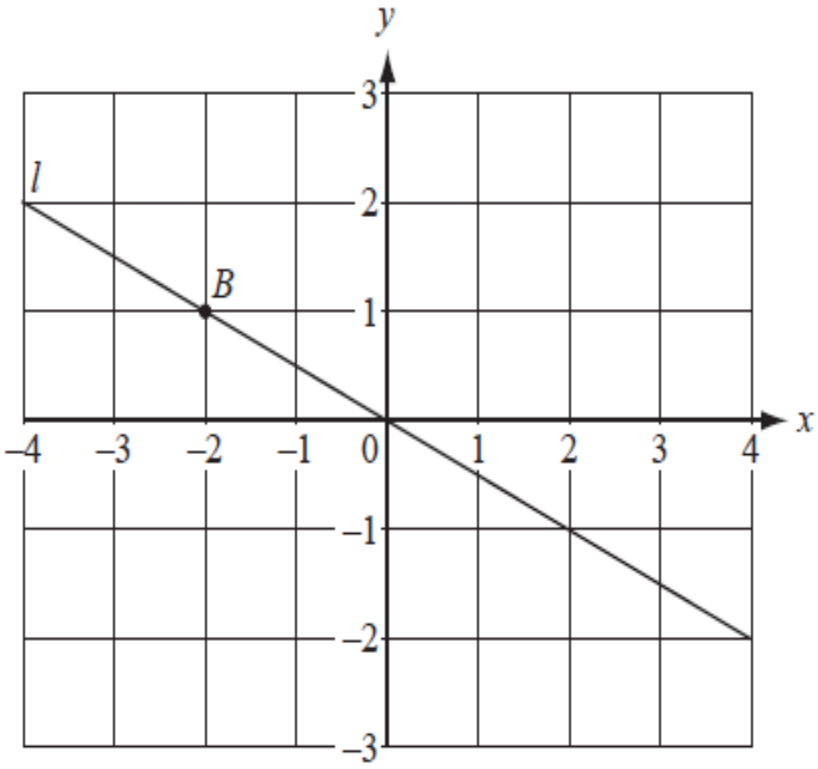
Answer(a) ---------- cm^3[2]

(b) Write your answer to **part (a)** in cubic metres.

Answer(b) ---------- m^3[1]

---

17)



(a) Mark clearly on the diagram the point with co-ordinates (3, 2) and label it *A*. [1]

(b) Write down the co-ordinates of the point *B*.

Answer(b) (-------- , ---------) [1]

(c) Find the gradient of the line *l*.

Answer(c)---------- [1]

18) (a) 85% of the seeds in a packet will produce red flowers.

One seed is chosen at random.

What is the probability that it will not produce a red flower?

Answer(a) ----------[1]

(b) A box of 15 pencils contains 5 red, 4 yellow and 6 blue pencils.

One pencil is chosen at random from the box.

Find the probability that it is

(i) yellow,

Answer(b)(i) ---------- [1]

(ii) yellow or blue,

Answer(b)(ii) ---------- [1]

(iii) green.

Answer(b)(iii) ---------- [1]

19) A travel brochure contains 24 pictures from different countries.
The table shows how many pictures there are form each country.

Country	Number of pictures	Angle in a pie chart
Argentina	6	90°
South Africa	10	150°
Australia	3	
New Zealand		

(a) Complete the table.

[3]

(b) Complete the pie chart accurately and label the sectors for South Africa, Australia and New Zealand.

[2]