Mathematics

Topical Questions

TERM ONE MATHEMATICS OPERATION ON WHOLE NUMBERS

1. Add: 416 + 22

2. Subtract: 7 5 4
   - 2 3 9

3. Work out: 404 x 22

4. Share 2727 apples between 9 boys. How many will each one get?

5. What is the difference between 268 and 143?

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6. **Simplify: 3 + 4 x 2**

7. **A truck can carry 80 bags of millet in one trip. How many bags can it carry in 96 trips?**

8. **At a party 4896 people were served with a bottle of soda each. If each crate of soda contains 24 bottles.**

(a) How many crates of soda were served?

(b) If each care of soda costs 24,000/=, how much money was used to buy all the crates of soda?

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9. Patrick kept coins in his saving box. He had 20 coins of shs 500 and 65 coins of 200 each. If he wanted 1000 shillings notes from the total amount he had in the saving box, how many notes would he get?

10. A bus carried 59 passengers per trip. How many passengers will the bus carry if it makes 12 trips?

11. There are 30 eggs in one tray. How many trays will be required to pack 330 eggs?

12. A radio uses batteries of 1.5 volts. In order for the radio to work, it requires 12 volts.

(a) How many such batteries will the radio require?

(b) If a pair of batteries costs shs 1000/=, how much money will be needed to buy the required batteries?

13. Ssempijja's poultry produces 3000 eggs in a day. If the eggs are packed in trays of 30 eggs each, how many trays are produced in a week?

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14. A taxi carries 14 passages while a bus carries 59 passengers. If the two vehicles make two journeys each, how many passengers will they carry altogether?

15. A bus left Kampala for Masaka town with 60 passengers. At Mpigi 15 passengers got out, at Buwama 8 passengers boarded and at Lukaya 12 passengers got out. It then continued to Masaka town where the rest of the passengers got out.

(a) How many passengers reached Masaka town.

(b) How much money was collected from passengers who reached Masaka town if each paid 8000/?

NUMBER PATTERNS AND SEQUENCE

1. **Find the next number in the sequence**

2, 3, 5, 7, _____

2. **Work out the GCF of 12 and 16.**

3. **Prime factorize 64 using set notation.**

4. **Find the sum of the first 5 even numbers.**

5. **Work out the square root of 196.**

6. **Find the least possible number, which when divided by 8 or 9 leaves 1 as a remainder.**

7. **Which number has been prime factorized. {21, 22, 31, 51}**

8. **The volume of a cube is 27dm3. Find the length of each side of a cube.**

9. **List down the multiples of 8 less than 50.**

10. The sum of 3 consecutive counting numbers is 63.

(a) Find the numbers.

(b) Workout the range of the numbers.

11. The LCM of two numbers is 120. Their GCF is 10. One of the numbers is 40. Find the other number.

12. Two bells in Kebe P/S are used. One bell in lower primary rings every after 30 minutes and the other for upper primary rings after every 40 minutes. The bells ring together at 8:45a.m

(a) After every how many hours will they ring together again?

(b) At what time will they ring together again?

13. Fatuma and Fahad arranged an equal number of apples in separate heaps. Fatuma arranged in twelves and Fahad arranged in nines.

(a) How many heaps did Fatuma and Fahad arrange altogether?

(b) What was the total number of apples arranged by the two?

(c) How many heads did Fatuma get?

14. The area of the square is 144cm2?

(a) Find the length of each side of the square.

(b) Calculate the perimeter of the square.

15. The venn diagram below shows prime factors of two numbers. Use it to answer questions that follow.

F24 FB

21

A 22 32

31

(a) Find the value of;

(i) B

(ii) A

(b) Calculate the;

(i) GCF of 24 and B

(ii) LCM of 24 and B

TOPIC: DISTANCE, TIME AND SPEED

1. How many minutes are in 2 hours?

2. Use >, < or = to fill the gaps.

   (a) 12hrs _____ 1200omin

   (b) 180 min _____ (2 + 1) hours

   (c) 110min _____ 1100 sec

   (d) 3600 sec _____ 1 hour

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(e) 2 days _____ 24 hours

3. How many hours are there between:

(a) 3 : 15am and 10:30am?

(b) 11:00am and 4:00pm?

(c) 7 : 00am and 3:00pm?

4. An examination started at 8:30am and ended at 10:30am. For how many seconds did the exam last?

5. Find the distance covered by an air plane in 4 hours at 600km/hr.

6. Sam takes 40 minutes to cover a distance at a speed of 60 km/hr. How long in the distance he covers?

7. A bus moves at a speed of 160km/hr. What distance does it cover in ½ hour?

8. How long will it take a traveller to move a distance of 350m at a speed of 70m/hour?

9. How many more hours will a car moving at 70km/hr take to cover a 350km journey if its average speed is reduced to 50km/hr?

10. At what speed should a ship move in order to reach the landing site which is 320 km away in any 4hours.

11. Kiprotich took any 30 min to run a distance of 2km. What was his average speed in km/hr.

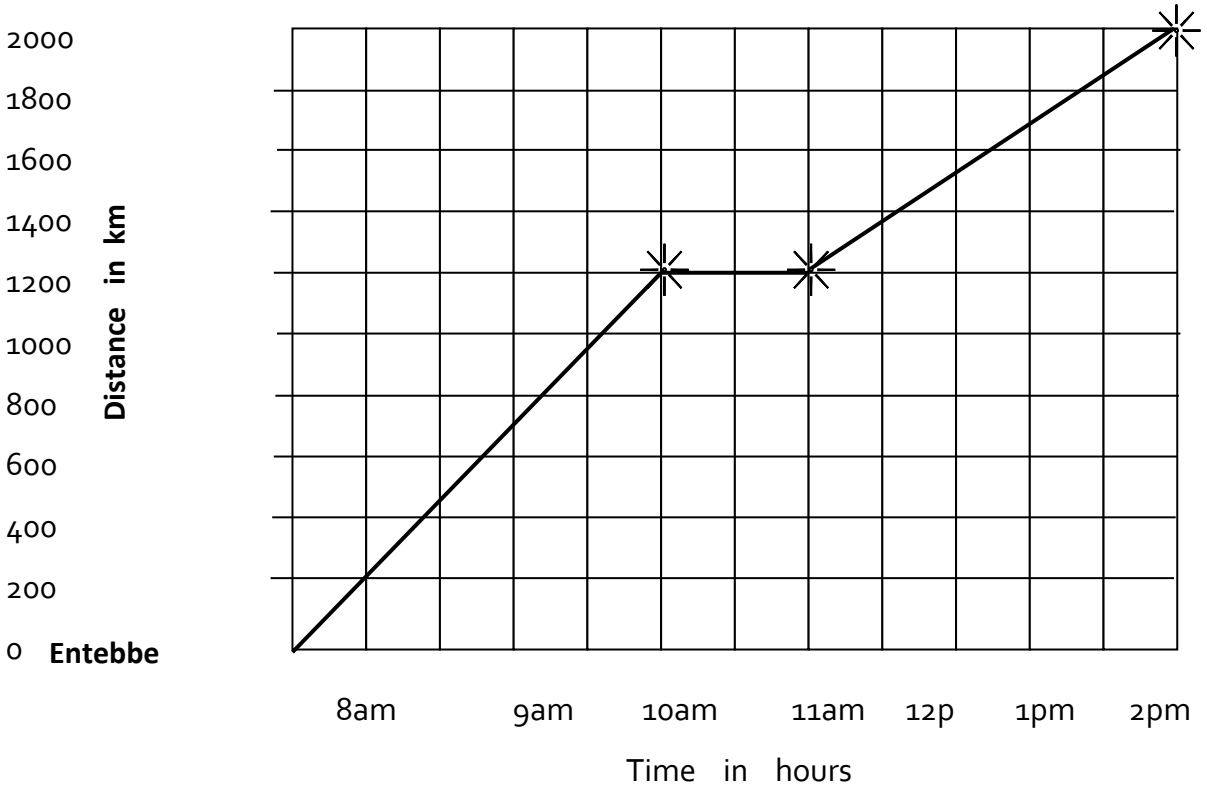
12. Express 180km/hr in m/second.

13. Convert 20m/second to km/hr.

14. We took 4 hours to travel to Entebbe beach during our tour at 45km/hr but it took us 6hours to return to school. Calculate the average speed for the whole journey.

15. Cape Town is 2000km from Kampala. Ethiopia Airlines travels from Entebbe to Cape Town at a speed of 400km/hr for 3 hours rested in Zimbabwe for 1 hour. It then continued at the same speed for 2 hours before it arrived in Cape Town (S.A). The whole journey is represented on the graph below. Use it to answer the following questions.

Cape town



(a) What distance did the plane cover after resting?

(b) At what time did the plane arrive at Cape town?

(c) Identify the scale on the vertical axis?

(d) What is the distance from Entebbe to Zimbabwe?

(e) Calculate the average speed for the whole journey?

TOPIC: MEASURES "MONEY"

1. How many 200/= coins make up 4600/=?

2. Find the number of 5000/= bank notes that John will pay for a radio that cost sh 90000.

3. Kirimutu has bank notes numbered from RA439619 to RA439718. How many bank notes does he have?

4. Find the amount of money in a bundle of sh 1000 but notes if they are numbered from KY11100 to KY11199.

5. Sekyanzi picked a bundle of 10,000/= bank notes numbered from PM000260 to PM000289. He took it to his dad who realised that bank notes from PM000272 to PM000282 were forged (counterfeit)

(a) Find the number of banknotes that were not counterfeit

(b) How many bank notes were counterfeit?

(c) What was the value of the forged money?

6. The cost of 3 pens is 1000/=. How much will I pay for a dozen of such pens?

7. The cost of a ream of papers is double the price of a text book. How much more do I have to pay for the ream of papers if the cost of the text book is 7000/=?

8. Jimmy Johns went to a shopping mall and bought the following items.
2 ½ kg of cow peas at sh 2000 per kg.
2 tins of charcoal at 7000/=
500g of salt at sh. 4500 per kg.
(a) How much did he spend on all the items?

(b) Find his change if he had shs 20000/=.

1. The table below shows Tim Tom's shopping bill. Study it and find the missing answers.

Item	**Quantity**	**Unit price**	**Amount**
Sugar	.....	Sh 1200	4800
Millet	4kg	Sh 1700	.....
Paraffin	1 ½ L	.....	18000
Maize flour	750 g	Sh 4000@ kg	.....
Soap	.....	Sh 2000@ bar	1000/=
		Total Amount	.....

2. The table below shows the current exchange rates of different currencies in Uganda

at Sir Apollo Kaggwa Forex Bureau. Use it to answer the following questions.

Currency	Buying	Selling
1 US dollar (US $)	1950	2000
1 pound sterling (£)	2600	2650
1 Kenya shilling (Ksh)	20	22
1 Euro (Euro)	1700	1720

(a) I have 430,000. Find how much I have in Euros.

(a) Johnson sold his phone to an English man at £420. Find how much he got in Uganda shillings.

(b) How much money in Uganda shillings one has to pay in order to buy.

(i) Ksh 170

(ii) Us $ 420

(iii) Euro 110

TOPIC :GRAPHS AND INTERPRETATION OF DATA

1. Given the numbers : 6, 4, 5, 6, 2, 3, 0 and 6. Find;

(a) Mode

(b) Median

(c) Range

(d) Average

2. The median of 5 consecutive positive integers is +12.

(a) What are the numbers?

(b) Find their range

3. Find Lucy's mean mark if she got the following

MTC - 80%

ENG - 60%

SST - 20%

SCIE - 40%

4. The average age of 120 pupils in a class is 12 years. What is their total age?

5. The average of x, 3x, 7x and 4x and 0 is 6. Find x.

6. John's average mark in 3 tests is 60% and the average mark in 2 other tests is 90%. What is the average mark in the 5 tests?

1. The table below shows points scored by seven clubs in the Premier League.

Team	Mau U	Arsenal	Chelsea	Man City	Liverpool	Everton
Points	72	73	80	70	68	62

(a) Which club is in the first position?

(a) How many more points does Arsenal have more than Everton.

(b) Draw a bar graph to represent the information above.

(Vertical scale – 1sq : 10 points)

1. The following is the number of brothers of 20 pupils in P.6 at Fairways P/S.

2	4	5	6
4	2	3	4
3	3	4	3
2	2	2	2
4	5	5	5

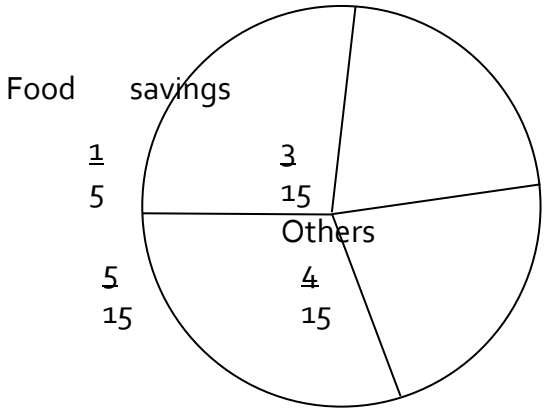
Group the data using tallies

(a) Find the mode

(b) What is the range?

(c) Calculate the mean

1. The pie chart shows how Mr. James spends sh 15000 every day.

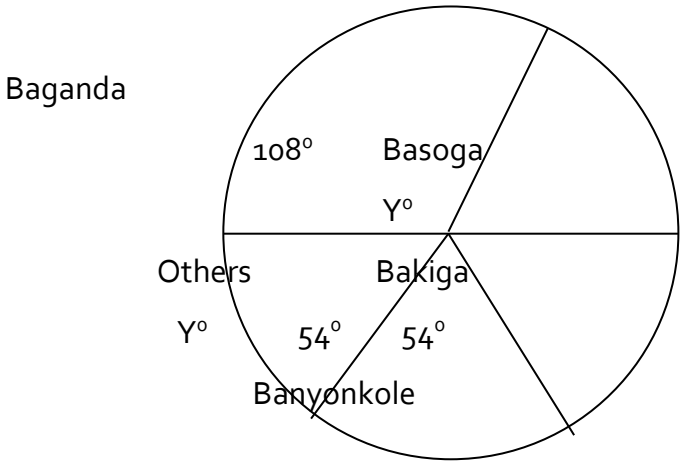


(a) How much money does he save daily?

(b) How much more does he spend on rent than food.

(c) Change the fraction for savings to degrees.

2. The pie-chart below shows the different tribes in Kampala.



(a) Find the value of y

(a) If Kampala has a total population of 18 million people. How many are;

(i) Baganda

(ii) Bakiga

(iii) Basoga

(b) What fraction represents other tribes?

1. 30% of the phones in Alice's shop is Nokia, 20% is Huawei, 30% is Samsung and 20% is Blackberry. Represent this information in a pie-chart.

TOPIC:FRACTIONS

1. Work out:

(a) $2 + 4$

$3 \quad 7$

(b) $1 - 1$

$3 \quad 4$

(c) 2×4

$3 \quad 5$

(d) $3 \div 9$

$4 \quad 8$

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2. Simplify: $\frac{1}{2} \times \frac{2}{3} + \frac{2}{5}$

3. A rope is 8m long. It is to be cut into small pieces of 0.2m. How many pieces will be obtained from the rope?

4. Divide $0.64 \div 0.8$

5. Work out the following

(a) 0.42 x 0.9

0.06

(b) 0.12 x 0.08

0.004 x 0.3

(c) 2.5 + 7.5

0.5

6. A boy chopped his sugar cane into 4 parts. He gave one part to his 3 friends to share equally. What fraction of the sugarcane did each of the friend get?

7. Mugisha ate 2/5 of his cake in the morning. She gave ½ of the remaining part to a friend and ate the remaining part in the afternoon. Find the fraction he ate in the afternoon.

8. Change 1/8 to a decimal fraction.

9.Our teacher has 20 blue markers and 15 red ones. Find the ratio of red to blue markers.

10. The ratio of rulers to the pupils in the Mathematics lesson is 2 : 3. If there are 39

pupils. How many rulers are there?

11. Increase shs 1200 in a ratio of;

(a) 4 : 3

(b) 9 : 4

(c) 5 : 1

12. Decrease 400kg in the ratio

(a) 3 : 5

(b) 7 : 10

13. Juma, Jimmy and John contributed and bought a ball at 24000/= in a ratio of 1 : 2 : 3 respectively. How much did each contribute?

14. The artist mixes white colour and black to get grey. He mixes them in a ratio of 5 : 2 respectively. How many kg of black is he supposed to use if he uses 25 kg of white?

15. 16 boys can sweep the compound in 5min. How many boys can do the same work in

20 min.

16. (a) Change 4/5 to a percentages.

(b) Change 0.25 to a percentage.

(c) Change 70% to a decimal.

17. There are 10% more cows than bulls on a farm.

(a) What s the percentage of bulls on the farm.

(b) What is the percentage of cows on the farm?

18. 5% of a number is 120. What is the number?

19. Increase 30 bottles by 10%.

20. Decrease 800 by 5%.

21.Wele's pay is 24,000/=. He received an increment of 30%. What is his new increment?

22.Due to a financial problem. A company was forced to retrench 28% of its workers. How many workers were retained if it originally had 280 workers.

23.A mechanic bought a motor cycle at sh 600,000. After 3 years he sold it at sh 480,000. Find his percentage loss.

24.A canteen attendant buys a dozen of books at 2400/=. If she gets a profit of sh 50 from each book. Find her percentage profit on each book.

25.Wambata borrowed sh 2,400,000 from a bank at 20% per year for 16 months.

(a)How much interest did he pay?

(b)What total amount did he pay to the bank?

TERM III TOPIC 1: LENGTH, MASS AND CAPACITY

1. Use a pencil and a ruler only to draw a line segment of length 7.5 cm.

2. Change 2.7km to metres.

3. Convert 4km to centimetres.

4. Change 2.45m to centimetres.

5. Convert 9cm to millimetres.

6. Convert 3217 metres to kilometres.

7. Change 2800cm to metres.

8. A house fly covered 150 mm, what is this distance in centimetres?

9. Convert 7m2 to square centimetres.

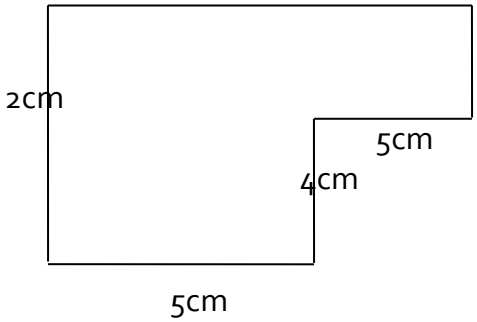
10. Change 0.36km2 to square metres.

11. One side of a regular octagon is 5cm. What is the total distance round it?

12. The radius of a circle is 3.5m. What is its diameter?

1. Calculate the area of the figure below.

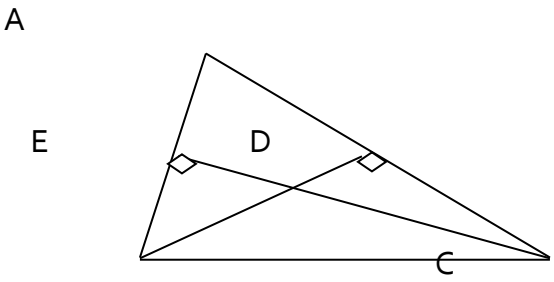
2. Study the figure below.



3. The diameter of a circle is 14cm. Find its circumference.(Use $\pi = {}^{22}/_{7}$)

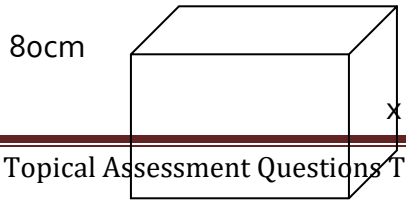
4. What is the area of a circle whose radius is 35dm? (Take $\pi = {}^{22}/_{7}$)

5. In the triangle below AB = 12cm, CE = 10cm and Ac = 16cm, use the triangle to answer the question that follows.



Find the length of BD in cm.

6. The volume of the cuboid below is 48 litres.

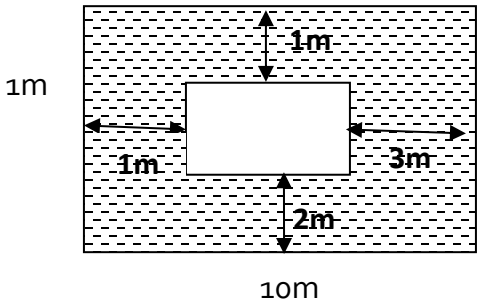


120cm

(a) Calculate the total surface area.

(b) Find the value of x.

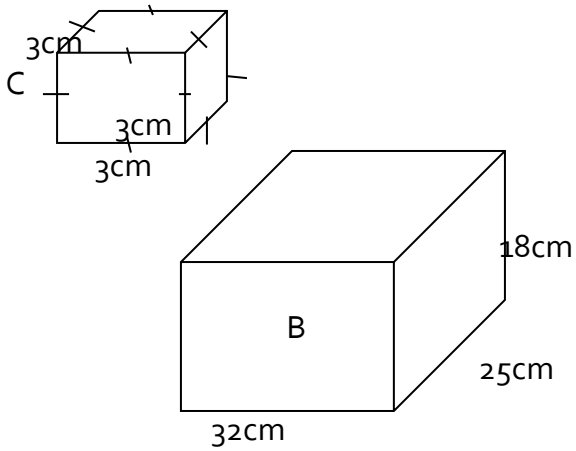
7. Find the area of the shaded part.



(a) Work out the perimeter of the figure.

(b) Calculate its area.

8. Below is a cube (c) and a box (B).



(a) How many cubes of (C) can be packed in box (B)?

(b) How many layers of cube (C) can be made in box (B)

TOPIC 2 : LENGHT , MASS AND CAPACITY

1. A bag weighs 4kg. How many grams does it weigh?

2. Express 13000g as kg.

3. Work out: 450kg + 350g.

4. Subtract 6kg – 150g.

5. Change 6.045kg to grams.

6. A box weighs 56,000g. What is its weight in kg?

7. A container carries 1200kg of beans. How many packets of 200g can be poured

into the container?

8. Naigaga prepares 17,000 millilitres of juice for sale daily. How many bottles of 1 litre does she prepare?

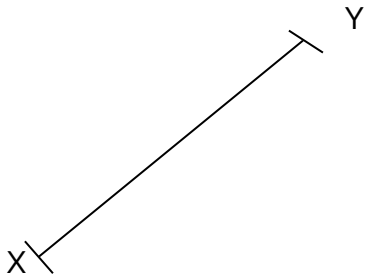
9. A bus used 20 ½ litres of diesel. How many millitres were they?

10. How many cups of 250cm3 can be obtained from a five litre jerrycan?

11. How many litres of water can fill the rectangular prism shown in the figure below?

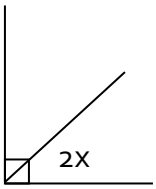
TOPIC 3: Geometry

1. Use a ruler and a pair of compasses to draw a parallel line to line XY.



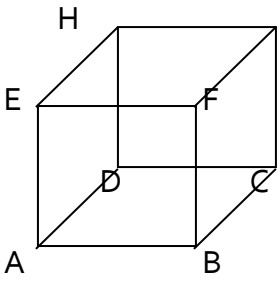
1. Find the value of X.

60°

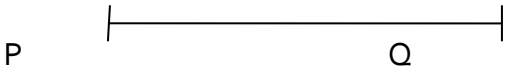


2. From the cuboid below identify one pair of skew lines.

G

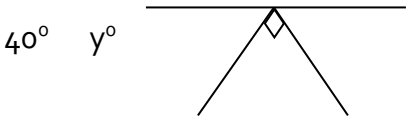


3. Using a pair of compasses and a ruler only draw a perpendicular bisector of line segment PQ.

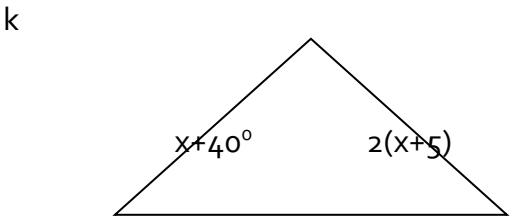


4. Using a pair of compasses and a ruler only construct an angle of 150°.

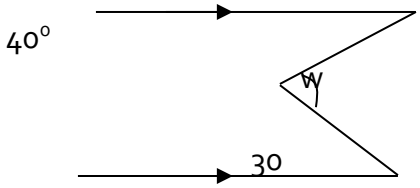
5. Find the value of y.



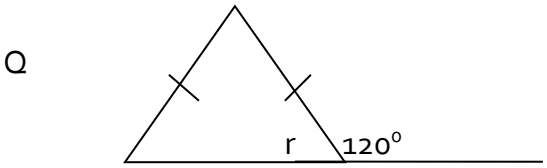
6. Find the value of the angle marked K.



7. What is the value of W.



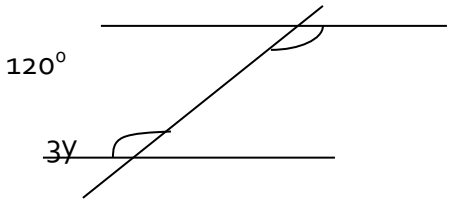
8. Study the diagram below.



Find;

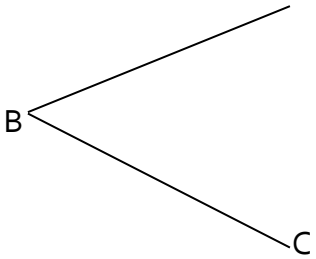
(a) $\angle Q$

9. Find the value of y.



10. Use a pair of compasses and a ruler only to bisect the angle given below.

A



11. How many lines of folding symmetry does the figure below have?

12. The interior angle of a regular polygon is twice its exterior angle. Find its interior angle sum.

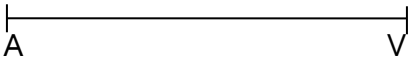
13. Draw a net for a triangular prism.

14. Using a pair of compasses and a ruler only, construct a triangle XYZ in which XY = 7cm, XYZ = 60^{o} and ZXY = 45^{o}.

15. The exterior angle of a regular polygon is 40^{0}. What is its interior angle sum?

16. Drop a perpendicular line from point N to meet line AV at Q.

N ●



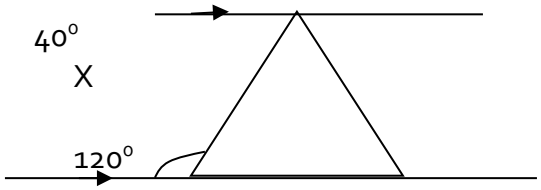
17. The interior angle of a regular polygon is 120 more than its exterior angle.

(a) Calculate the exterior angle.

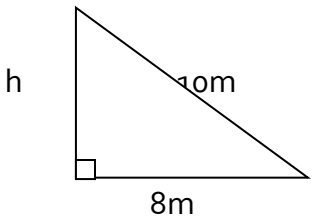
(b) How many sides has the polygon.

(c) Work out its interior sum.

18. Find the value of X.



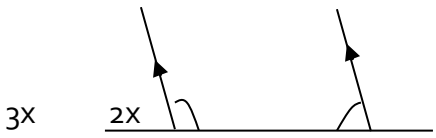
19. A ladder 10m long leans against a wall such that its foot is 8m away from the wall. What is the height (h) of the wall?



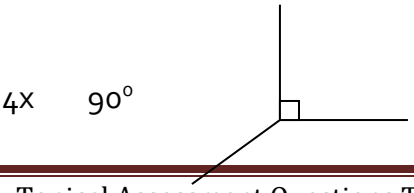
20. Given that $(x + 40)^0$ and $2(x +5)0$ are supplementary angles. Find the value of x.

21. Construct a regular pentagon of side 3.5cm.

22. Find the value of X.



23. Find the value of X?



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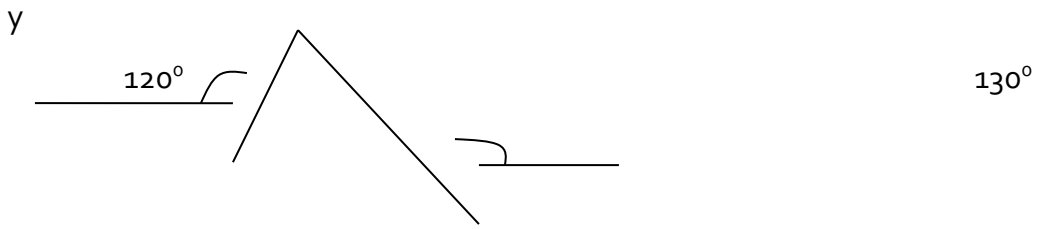
5x

24. Find the value of y in the figure below.

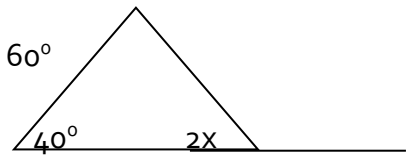


25. Name the polygon whose interior angle sum is 1080°.

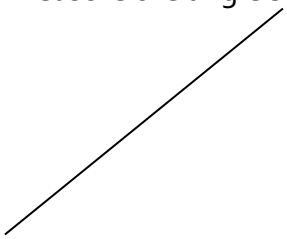
26. Indentify the regular polygon whose centre angle is 120°?

27. Construct a regular Octagon using a circle of radius 4cm.

28. Find X.



29. Measure the angle shown below.



TOPIC 3: INTEGERS

1. Evaluate 8 - - 3

2. Subtract +7 from -7

3. Work out: -3 x 0

4. Find the additive inverse of +8

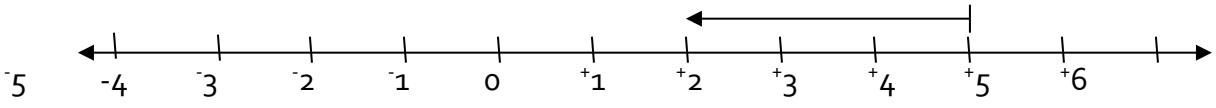
5. Work out +8 - - 7

6. Evaluate +2 x -6

7. Divide -12 ÷ -4

8. The temperature on a mountain was recorded for 5 days as -3, 0, +1, -4 and +5 on oC. Find the range of the recorded temperature.

1. Identify the integer shown by the arrow on the number line below.



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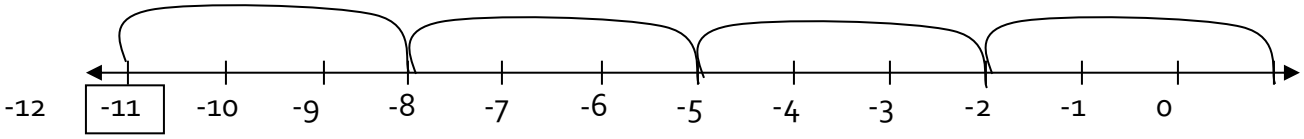
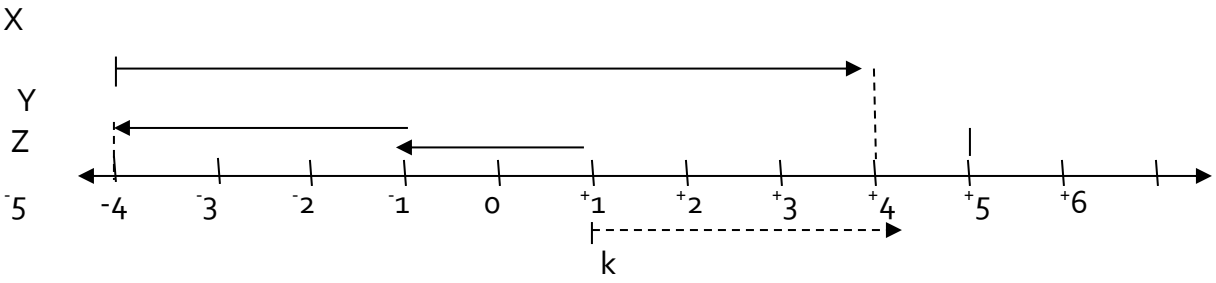
2. Write down the Mathematical sentence shown on the number line below.



3. Study the number line shown in the figure below.



(a) Identify the integers represented by the arrows;

(i) K .....

(ii) X .....

(iii) Y .....

(iv) Z .....

(b) Write down the mathematical statement shown on the above number line.

1. Solve and given the solution set;

$2y > 4$

2. The temperature on top of a mountain was 30C at noon. It dropped by 100C. What was the final temperature?

3. Solve: $n - -7 = 7$

4. Solve: $2x < 6$

1. Arrange the following integers in ascending order.

-2, 4, 8, 3, -1, 0

2. Use >, or < or = to compare

-3 ..... +1.

3. Work out the range of the data given below;

-2, +3, +4, -4, -5, +2

4. Represent the following integers on a number line.

{-3, -2, -1, 0, +1, +2, +3}

5. Solve: -3x + 5 < 8 and give the solution set.

6. Solve and give the solution set:

$3 > 3x > 9$

7. Work out +4 - +7 using a number line.

8. I think of a number, multiply it by 4 and subtract 5 from it, the result is greater than 3. Find the least possible number.

9. The temperature of hailstone was -5oC and that of water was 24oC. What was the difference in temperature between the hailstone and water?

4. In an interview, 3 points are awarded for every correct answer and 2 points are subtracted for each wrong answer. The interview comprised of 10 questions. What was the final score for an interviewee who answered 7 questions correctly?

TOPIC 4: ALGEBRA

1. **Solve: p – 2 = 4**

2. **if x = 2, find the value of 5 – 2x**

3. **Remove the brackets; 4 (1 – 3b)**

4. **Simplify: 2b + 4a + b – 2a**

5. **Solve: $\frac{x}{2} - 3 = 5$**

6. Solve: $3x - 5 = 7$

7. If $a = 2$, $b = 1$ and $c = \frac{1}{2}$

Calculate $\frac{ab}{c}$

8. Find the value of $bc + ac$ given a

that $a = 1$, $b = 0$ and $c = 3$

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9. Solve: 3p – 6 = 18 + p

10. Simplify: 3x – (2 + x)

1. The figure below is a rectangle. Find its perimeter and area.

(2x+1)cm

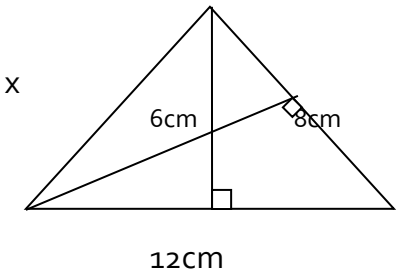
(2x-1)cm 

(x+3)cm

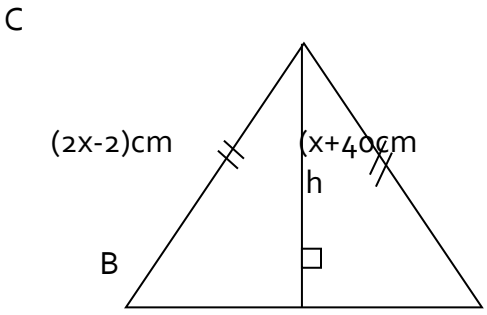
2. Kirya is 3 times as old as his daughter. Their sum is 72 years. How old is the daughter?

3. Solve: 5(x +1) – 3 (x -1) = 14

4. Find the value of x.



5. Use the triangle ABC to answer the questions that follow.



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