



FLCM March/1 2015

**FOUNDATIONAL MATHEMATICAL LITERACY  
SUMMATIVE ASSESSMENT**

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**TIME TO COMPLETE: 2½ HOURS**

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**PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY**

1. Please make sure you have turned off your cell phone and have placed it under your seat, together with any books, notes or other material in your possession. Your pockets must also be empty.
2. You may have your Examination Entry Letter, your identity document and a pen or pencil and eraser on your desk.
3. If you are writing Mathematical Literacy, you may have a basic calculator, i.e. non-programmable. You may **not** use a cell phone as a calculator.
4. When the chief invigilator instructs you, take out the Answer Sheet that is placed inside your Examination Booklet.
5. Check that the learner code on your Answer Sheet matches the learner code on your Examination Entry Letter.
6. Do not write on the Examination Booklet. Make use of the spare paper provided.  
NB: all spare paper used in calculations must be returned to the invigilator at the conclusion of the examination session.
7. This examination session is 2½ hours, i.e. 2 hours and 30 minutes.
8. You may not leave the examination before the end of the session.
9. When answering each question, select the option from the four answers provided that you believe is the correct answer by filling in the selected circle.
10. Use an HB pencil only and ensure that you fill in the circle completely.
11. Make sure that you colour in dark enough that the computer can read your answer.
12. Take note of the illustrations on your Answer Sheet showing the correct way to complete the Answer Sheet.
13. Do not fill in more than one option in your response, because no option will then be considered in marking.

**Question 1**

Nontando says she is thinking of a number that is greater than 17. Her number is an **odd** number.

Which number could be Nontando's number?

- A 15
  - B 16
  - C 25
  - D 26
- 

**Question 2**

Onika and Isobel baked bread and sold it. Onika baked 11 loaves and Isobel baked 5 loaves. They sold three quarters of their loaves and gave 2 loaves to the homeless shelter. How many loaves did they have left?

- A 10
  - B 2
  - C 4
  - D 14
- 

**Question 3**

The analogue clock face below shows the time in the night. What would the digital display be?



- A 10:30
  - B 22:40
  - C 22:22
  - D 22:30
-

**Question 4**

Andy and Sam discussed the answers to the following two equations:

$$4^2 - 3 + 2^3$$

$$4^2 - (3 + 2^3)$$

What conclusion did they come to?

- A The difference is 21
  - B Both answers are the same
  - C The difference is 16
  - D The difference is 5
- 

**Question 5**

Barry adds the numbers in the expression below

$$38 + 71 + 52$$

Which is the most reasonable expression for Barry to use to check his answer, using estimation?

- A  $40 + 80 + 60$
  - B  $30 + 80 + 60$
  - C  $40 + 70 + 50$
  - D  $30 + 70 + 50$
- 

**Question 6**

John, Sam and Titus work on a building project. They are paid R6 000 in total for the project. John works for 9,5 hours, Sam works for 12 hours and Titus works for 8,5 hours.

How much does Titus get paid if all 3 workers are paid proportionally for the hours they work?

- A R850
  - B R2 000
  - C R1 700
  - D R1 000
-

**Question 7**

An American investor wants to buy a house in South Africa. The house is priced at R5,3 million. At the time of the purchase the exchange rate is \$1 = R8,95.

How much will the American investor pay in terms of American dollars? Give your answer to the nearest dollar.

- A \$47 435
  - B \$474 350
  - C \$592 179
  - D \$59 218
- 

**Question 8**

Gracie works in a restaurant over weekends. On Saturdays she works from 12:00h to 23:00h at a rate of R15 per hour. On Sundays her hours are 9:00h to 16:00h, at 1½ times the Saturday rate per hour. There were 5 weekends in January.

How much did Gracie earn that month?

- A R1 800,00
  - B R1 687,50
  - C R1 725,00
  - D R1 612,50
- 

**Question 9**

David made 40 kites, each of which cost him R115 for materials. He sells each one at a mark-up of 25%.

What is the selling price per kite?

- A R143,75
  - B R140,00
  - C R119,60
  - D R155,00
- 

**Question 10**

The Checkin Store sells designer shoes at R950 a pair.

If the shoes decrease in value by 2,5% each year, what will be the selling price after four years have elapsed?

- A R855,00
  - B R926,25
  - C R858,50
  - D R840,50
-

**Question 11**

Ayanda's bank account balance is R450,50. An amount of R375 is debited from her account. Her employer deposits R7 500 into her bank account.

What is her new bank balance after the last transaction?

- A R7 575,50
  - B R7 424,50
  - C R8 325,50
  - D R7 574,50
- 

**Question 12**

The water tariffs are shown in the table below. Calculate what a household will pay if their monthly consumption is 12,5 kilolitres.

Give your answer correct to 2 decimal places.

<i>From</i>	<i>To (kl used)</i>	<i>Rand per kl (VAT incl.)</i>
0	6.0	FREE
6.0	10.5	R 4,55
10.5	20.0	R 9,70
20.0	35.0	R14,38
35.0	50.0	R17,76
50.0 +	and above	R23,43

- A R56,88
  - B R39,88
  - C R23,95
  - D R121,25
- 

**Question 13**

Baldwin sells T-shirts and receives a commission of R2,15 for each T-shirt that he sells.

How many T-shirts must he sell to earn a commission of R193,50?

- A 89
  - B 97
  - C 90
  - D 96
-

### Question 14

Frank bought a new computer and printer costing R9 500 on hire purchase. He paid a deposit of R950 and was charged 16% p.a. simple interest on the balance.

He paid off his account in equal monthly instalments, over 1 year.

How much did Frank pay per month?

- A R826,50
  - B R1 010,17
  - C R872,17
  - D R918,33
- 

### Question 15

Simon decides to take out a bank loan to purchase a car. The terms of the repayment are shown below.

How much more will Simon pay for the car using finance than if he paid cash for the car?

Car Range:  
ix35

Model:  
ix35 2.0 ELITE AUTOMATIC DIESEL

Purchase price :  
399900.00

Deposit :  
99000

Repayment Period (months):  
60

Your monthly installment:  
R 6,173.42

- A R29 494,80
  - B R69 505,20
  - C R70 405,20
  - D R128 494,80
-

**Question 16**

Mr Mbiza earns R7 500 per month. He saves 13% of his salary each month.

How much money will he save in a year?

- A R11 700
  - B R9 750
  - C R13 000
  - D R15 600
- 

**Question 17**

A stores clerk has the following items in stock:

500 pencils at 20c each

250 pens at R2,50 each

100 note pads at R3 each

He issues 199 pencils, 60 pens and 3 note pads.

What is the value of the stock remaining?

- A R826,20
  - B R198,80
  - C R1 025,00
  - D R1 223,80
- 

**Question 18**

Two car hire companies charge different rates.

Car Hire A charges R270 deposit and R12 for every kilometre travelled.

Car Hire B does not charge a deposit but charges R15 for every kilometre travelled.

After how many kms travelled are the rates the same?

- A 243,0 km
  - B 216,0 km
  - C 337,5 km
  - D 90,0 km
-

**Question 19**

A queen-sized bed at a furniture shop costs R5 999,00. On hire purchase, a 10% deposit is required followed by 24 monthly payments of R260.

Calculate the total money that the purchaser will pay if he buys the bed on the hire purchase option.

- A R6 140,00
  - B R6 839,90
  - C R6 240,00
  - D R6 340,00
- 

**Question 20**

Jeremy saw a refrigerator advertised at Low Cost Furnishers at a price of R3 000. He paid a deposit of R690 when taking it on a hire purchase contract. Below is a table used by sales representatives to calculate the interest on hire purchase contracts.

Calculate the total amount that Jeremy will pay for the refrigerator if he takes out an 18 months' contract.

Terms in months	Monthly instalments as a percentage of the amount owed
6	17,9%
12	9,5%
18	6,7%
24	5,3%

- A R3 618,00
  - B R4 308,00
  - C R3 475,86
  - D R4 456,14
- 

**Question 21**

Mary is an accountant and she decides to invest her end-of-year bonus of R45 500 in an account which gives her 7,25% simple interest per annum for the first year. She re-invests the new amount for another year at 9,5% simple interest per annum.

How much does Mary have after two years?

- A R53 434,63
  - B R49 310,63
  - C R53 121,25
  - D R53 440,39
-



**Question 22**

A car magazine gives details of the annual decrease in the value of a new car costing R100 500, as shown in the table below.

What will the car be worth after 3 years?

Annual decrease in value		
Year 1	Year 2	Year 3
27%	12%	15%

- A R54 270,00
  - B R54 877,02
  - C R46 230,00
  - D R64 561,20
- 

**Question 23**

The number of cameras sold in a shop during four days is shown in the graph below. What was the total number of cameras sold on Tuesday and Friday?

CAMERAS SOLD	
Day	Number of Cameras
Tuesday	X X
Wednesday	X X X X X X
Thursday	X X X X X
Friday	X X X X

KEY
X = 5 cameras

- A 30
  - B 6
  - C 20
  - D 10
-

**Question 24**

The frequency table below represents the distances travelled by 30 netball players from their homes to the sports club.

How many players live the furthest from the sports club?

<b>Number of kilometres the netball players travel</b>	<b>Tally</b>	<b>Frequency</b>
12 – 13 km	### //	7
14 – 15 km	### ////	
16 – 17 km	### ###	
18 – 19 km	////	
	<b>Total</b>	<b>30</b>

- A 4
  - B 23
  - C 19
  - D 7
- 

**Question 25**

These are the ages of 11 workers in the postal department of the Shaik Mining Company:

32 33 29 30 31 34 31 35 30 32 33

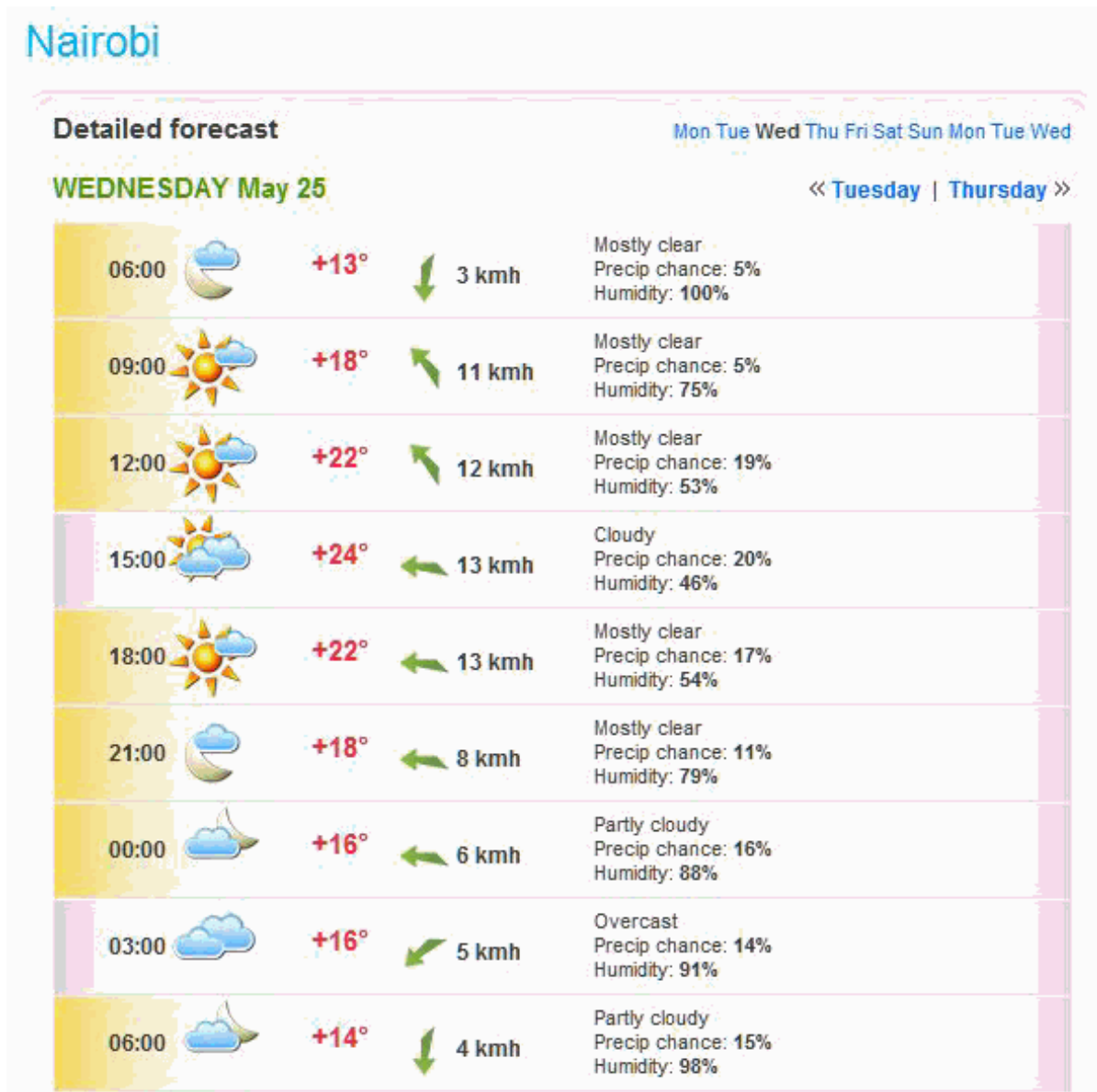
What is the range of their ages?

- A 32
  - B 31,8
  - C 6
  - D 4
-

**Question 26**

There is a possibility of rain in Nairobi according to this forecast.

When is there the most likely chance of rain?

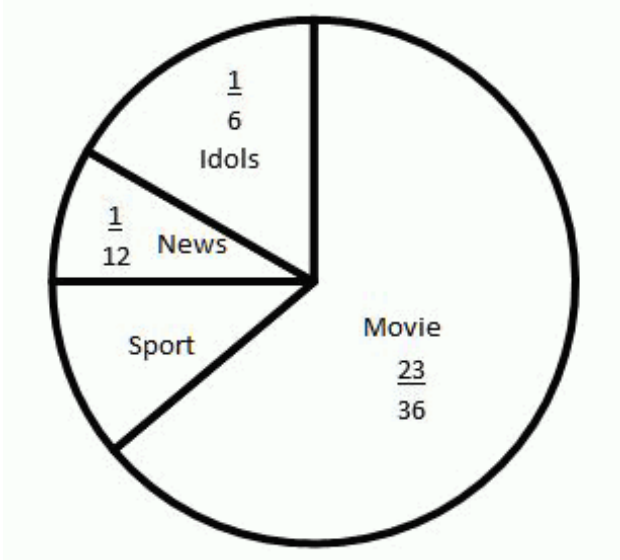


- A 03:00 on 25 May
- B 15:00 on 25 May
- C 03:00 on 26 May
- D 06:00 on 25 May

**Question 27**

The pie chart below indicates the TV programmes Jane watched over a period of 4 and a half hours.

How long did she spend watching the Sport programmes?

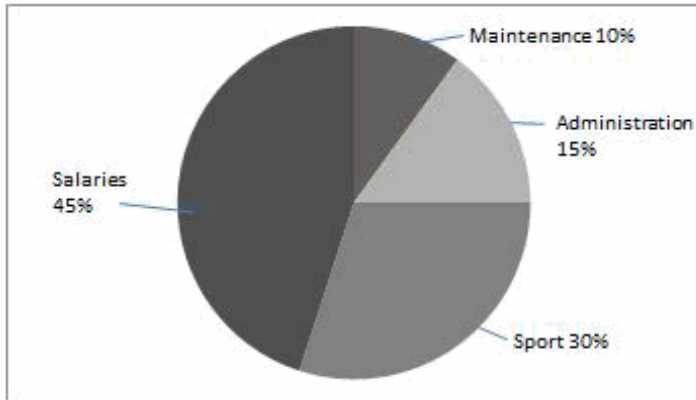


- A 27 minutes
  - B 30 minutes
  - C 32 minutes
  - D 20 minutes
-

**Question 28**

The pie chart shows the allocation of the budget at the Swars River High School.

Which table below is the correct reflection of the pie chart?



**Option A**

Account	Amount in Rands
Salaries	122000
Maintenance	366000
Sport	183000
Administration	549000

**Option B**

Account	Amount in Rands
Salaries	122000
Maintenance	366000
Sport	549000
Administration	183000

**Option C**

Account	Amount in Rands
Salaries	183000
Maintenance	549000
Sport	122000
Administration	366000

**Option D**

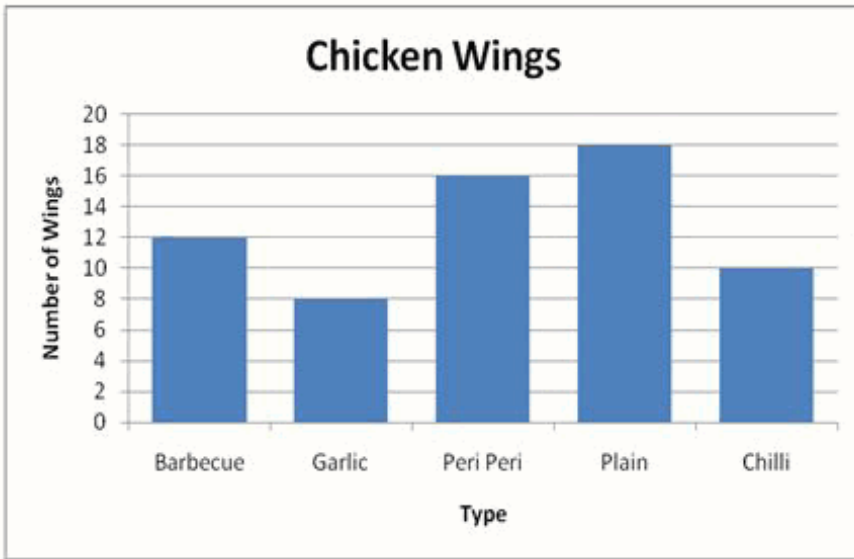
Account	Amount in Rands
Salaries	549000
Maintenance	122000
Sport	366000
Administration	183000

- A Option A
  - B Option B
  - C Option C
  - D Option D
-

**Question 29**

Mr Dlamini prepares some chicken wings for a picnic. The bar graph shows the number of different types of wings he prepares.

Based on the bar graph, which of these statements is true?

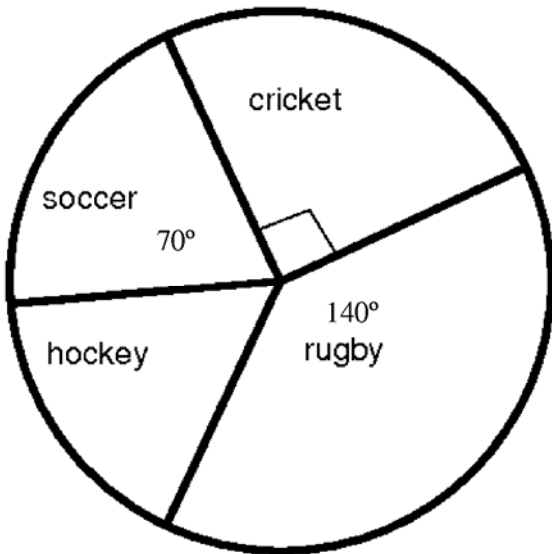


- A Mr Dlamini prepares two more barbecue wings than garlic wings
  - B Mr Dlamini prepares twice as many barbecue wings as garlic wings
  - C Mr Dlamini prepares twice as many plain wings as peri peri wings
  - D Mr Dlamini prepares two more plain wings than peri peri wings
-

**Question 30**

A survey was carried out to determine the main sport played by 180 learners. The following pie chart represents the responses of the 180 learners.

How many learners play soccer?



- A 70
  - B 45
  - C 35
  - D 90
- 

**Question 31**

The following table displays the data collected in a Province during the 2004 elections.

What percentage of the total votes cast were spoilt votes?

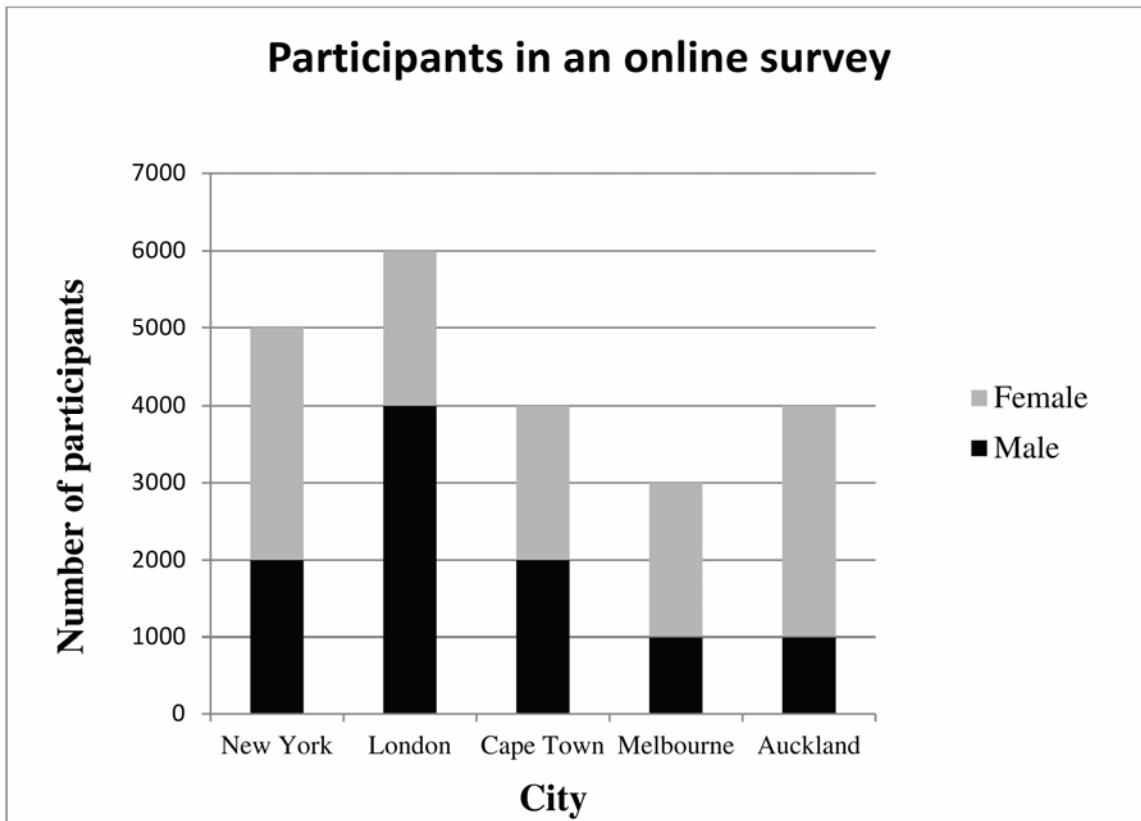
Registered voters	1 839 425
Total number of valid votes	1 358 365
Total number of spoilt votes	24 264
Total number of special votes	108 405

- A 1,3%
  - B 1,7%
  - C 1,6%
  - D 1,8%
-

**Question 32**

The graph below shows the number of male and female participants in an online survey.

Which city has the highest percentage of female participants?



- A Melbourne
- B New York
- C Auckland
- D London

The table below shows the percentages of protein, carbohydrates and fat in three different foods, as well as the cost of 100 grams of each.

**Question 33**

Which of the foods costs the least?

Food	% of protein	% of carbohydrates	% of fat	Cost per 100 g
A	10	20	30	R1,80
B	20	15	10	R3,00
C	20	10	40	R2,75

- A 300 g of A
- B 200 g of A and 150 g of B
- C 200 g of C
- D 150 g of A and 100 g of C



**Question 34**

A bag has 5 red balls, 4 blue balls and 1 green ball. The first ball randomly picked is green. This ball is kept out of the bag.

Choose the option that shows that the second ball randomly picked is red.

$$\frac{1}{2}$$

Option A

$$\frac{5}{9}$$

Option B

$$\frac{1}{18}$$

Option C

$$\frac{1}{20}$$

Option D

- A Option A
  - B Option B
  - C Option C
  - D Option D
- 

**Question 35**

Study the picture of a pack of playing cards. Before any card can be drawn, cards should face down.

If one card is drawn randomly, what is the probability of it being a black number card greater than 5?

 HEARTS	ACE	2	3	4	5	6	7	8	9	10	Jack	Queen	King
 CLUBS	ACE	2	3	4	5	6	7	8	9	10	Jack	Queen	King
 DIAMONDS	ACE	2	3	4	5	6	7	8	9	10	Jack	Queen	King
 SPADE	ACE	2	3	4	5	6	7	8	9	10	Jack	Queen	King

- A 19%
  - B 15%
  - C 31%
  - D 38%
-

**Question 36**

At the Vuleka Education Centre there are 36 learners in the Numeracy 3 class. 6 of the 15 men are left-handed and 6 of the 21 women are left-handed.

What is the probability of a learner, chosen at random, being right-handed?

- A 2 out of 3
  - B 1 out of 3
  - C 3 out of 5
  - D 5 out of 7
- 

**Question 37**

Claude flies from Johannesburg to Port Elizabeth. The flight takes 2 hours 10 minutes. The plane arrives in Port Elizabeth at 15:05.

At what time did the plane leave Johannesburg?

- A 13:55
  - B 17:15
  - C 12:55
  - D 16:15
- 

**Question 38**

The figure below shows a compass pointing to the North.

In which direction will it point if it turns  $315^\circ$  anti-clockwise?



- A South-east
  - B North-west
  - C South-west
  - D North-east
-

**Question 39**

The figure below shows a compass pointing to the North.  
How many degrees has it turned clockwise when it points south-east?



- A 120°
  - B 225°
  - C 135°
  - D 155°
- 

**Question 40**

A family plan to catch the 08:50 train from Johannesburg to Durban. The travelling time from their home to the station is 1 hr 5 mins. They have to arrive at the station 15 mins before the train departs.

What is the latest time they can leave home?

- A 07:30
  - B 06:45
  - C 06:50
  - D 07:45
- 

**Question 41**

The following information appears on the container of a Nesquik easy to mix drink:  
200 ml of milk + 3 teaspoons of contents = 1 drink (glass).

The mass of the product is 500 g and indicates that it can produce 40 servings.

Calculate the total volume of milk required to mix all the contents of the product to serve 40 children attending a birthday party.

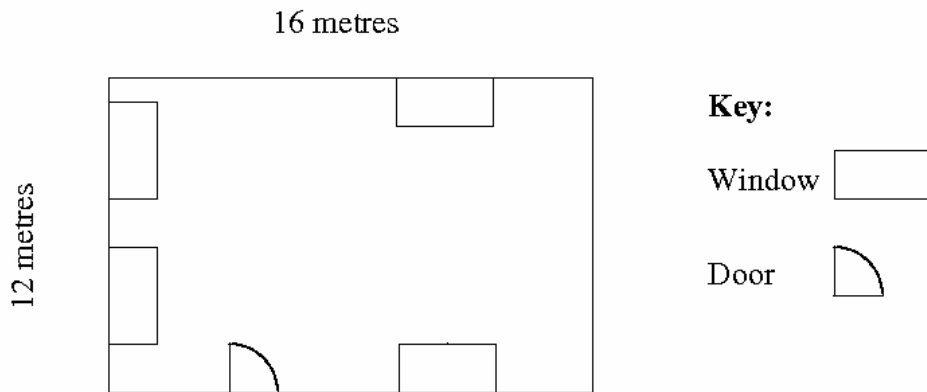
- A 8 litres
  - B 16 litres
  - C 12,5 litres
  - D 5 litres
-

**Question 42**

Menzi is a painter. He uses 5 litres of paint for every 10 square metres he paints.

Menzi has to paint the walls of a room at the local community centre. The room is 16 m long, 12 m wide and 3 m high. The door is 2 m high and 1,2 m wide. There are 4 windows, all are 4 m wide and 1 m high.

How many litres of paint will he need to buy?



- A 75 litres
  - B 30 litres
  - C 15 litres
  - D 50 litres
- 

**Question 43**

Kwena works 5 days a week. If he takes a taxi to work and home again every day his travelling time per week is 17 hours and 5 minutes. If he walks to and from the station and takes a train to work and back again, he spends 14 hours and 35 minutes travelling.

How many minutes will he save in a day if he uses the train to get to work?

- A 36 minutes
  - B 150 minutes
  - C 180 minutes
  - D 30 minutes
-

**Question 44**

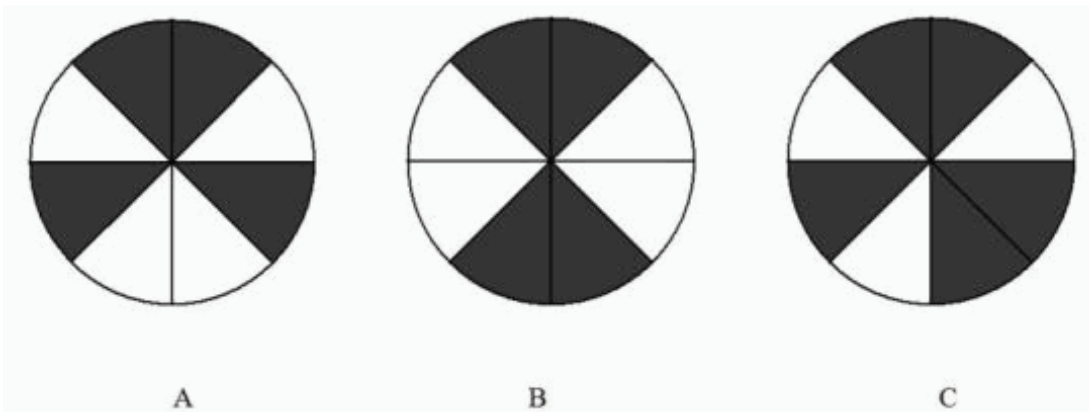
Dick's taxi travels at an average speed of 118 km/h.

If he halves his average speed, and drives for 3 hours and 15 minutes, how far would he have travelled?

- A 371,7 km
  - B 185,85 km
  - C 383,5 km
  - D 191,75 km
- 

**Question 45**

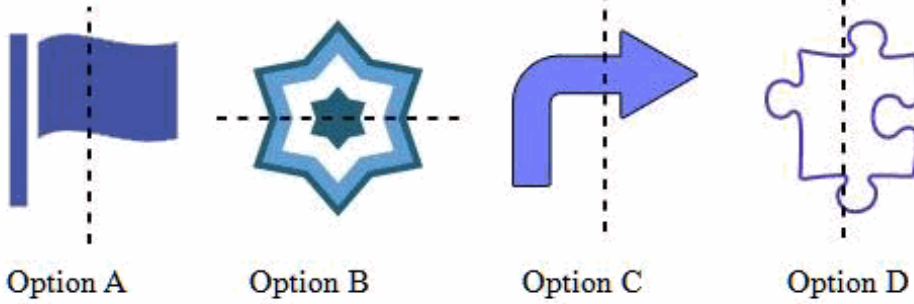
Study the diagrams below and choose the correct statement from the options given below.



- A A is more shaded than B
  - B B is more shaded than A but less shaded than C
  - C A, B and C are equally shaded
  - D A and B are equally shaded but less shaded than C
-

**Question 46**

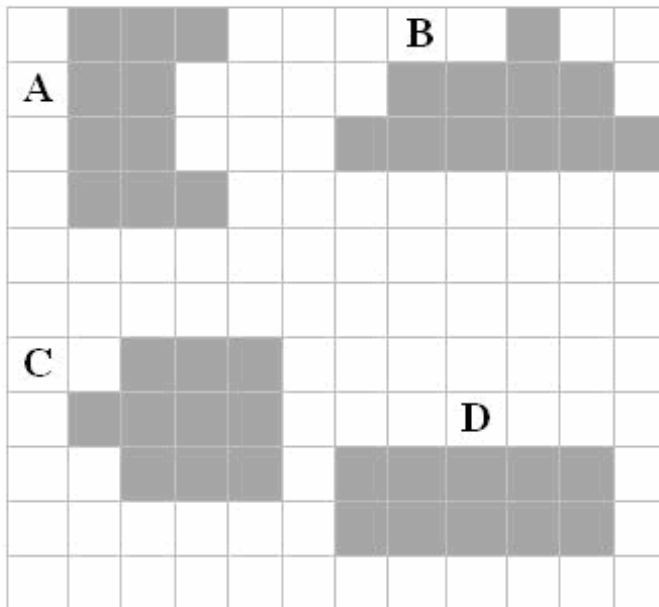
Study the following figures and identify the one that is symmetrical.



- A Option A
  - B Option B
  - C Option C
  - D Option D
- 

**Question 47**

Which shape has the largest area?

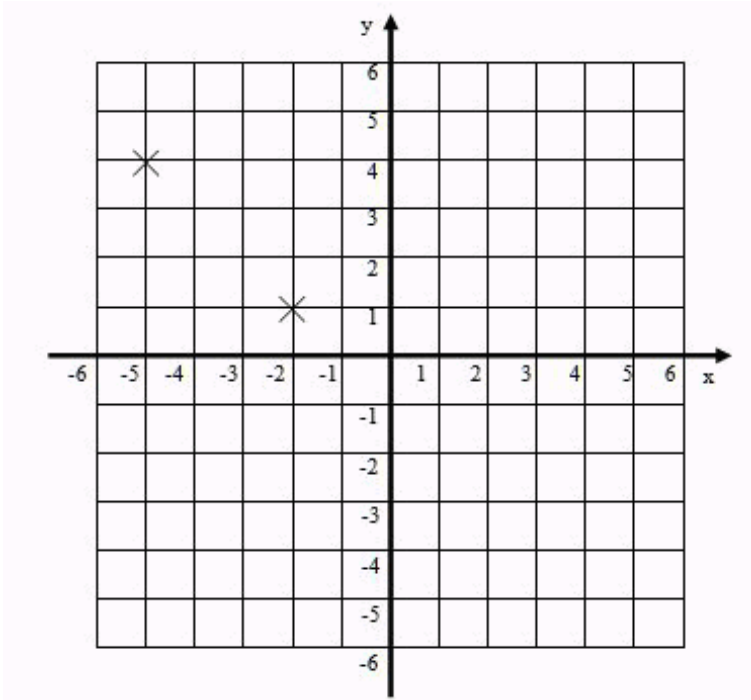


- A Shape A
  - B Shape B
  - C Shape C
  - D Shape D
-

**Question 48**

Two vertices of a right-angled triangle are shown on the coordinate plane below.

Which point could represent the third vertex of the right-angled triangle?



- A (1; -5)
  - B (-5; 1)
  - C (-1; 5)
  - D (5; -1)
- 

**Question 49**

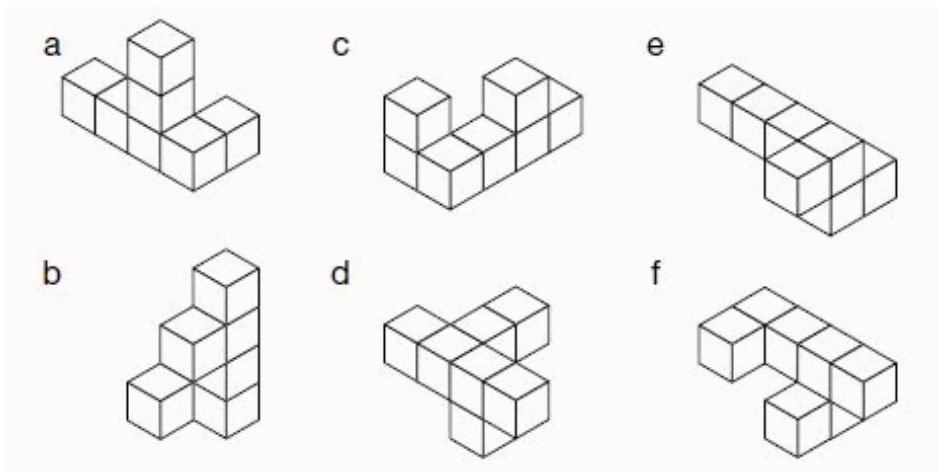
A fireman's ladder is 25 m long and must be positioned so that the foot of the ladder is no closer than 10 m from the base of the building. There is a fire in a 6 storey building and each floor is 3 m above the one below it.

How much further past the top floor will the ladder reach?

- A 3,0 m
  - B 5,0 m
  - C 2,0 m
  - D 7,0 m
-

**Question 50**

All of the cube structures shown below are made with seven cubes.  
Which two have the same shape?



- A a and d
- B c and d
- C c and f
- D b and c

**Question 51**

What city in the USA is found at the following coordinates: 43°N latitude, 79°W longitude?

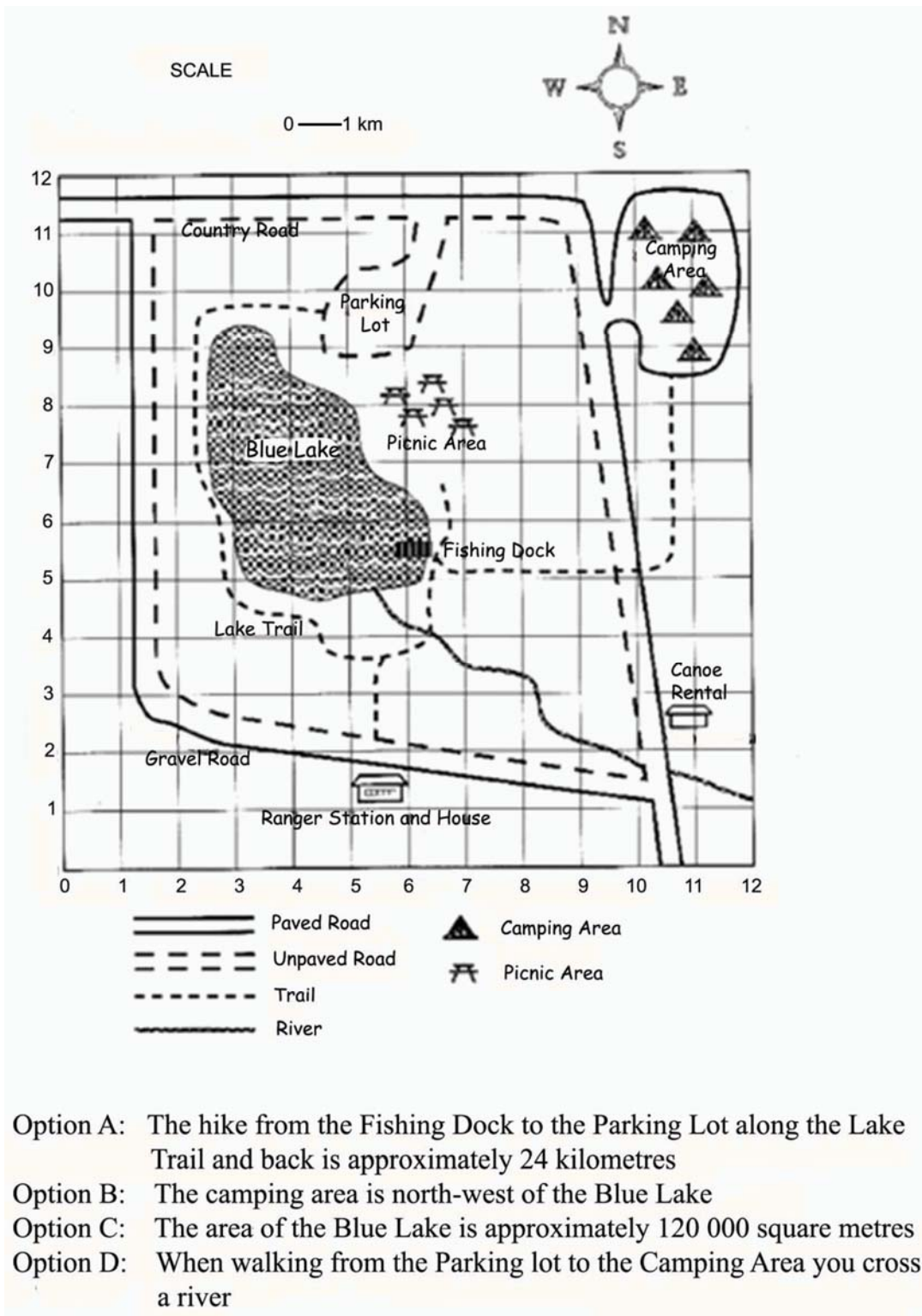


- A Miami
- B Niagara Falls
- C Raleigh
- D Boston



**Question 52**

Look at the campground map below. Which of the options is true?



- Option A: The hike from the Fishing Dock to the Parking Lot along the Lake Trail and back is approximately 24 kilometres
- Option B: The camping area is north-west of the Blue Lake
- Option C: The area of the Blue Lake is approximately 120 000 square metres
- Option D: When walking from the Parking lot to the Camping Area you cross a river

- A Option A
- B Option B
- C Option C
- D Option D

**Question 53**

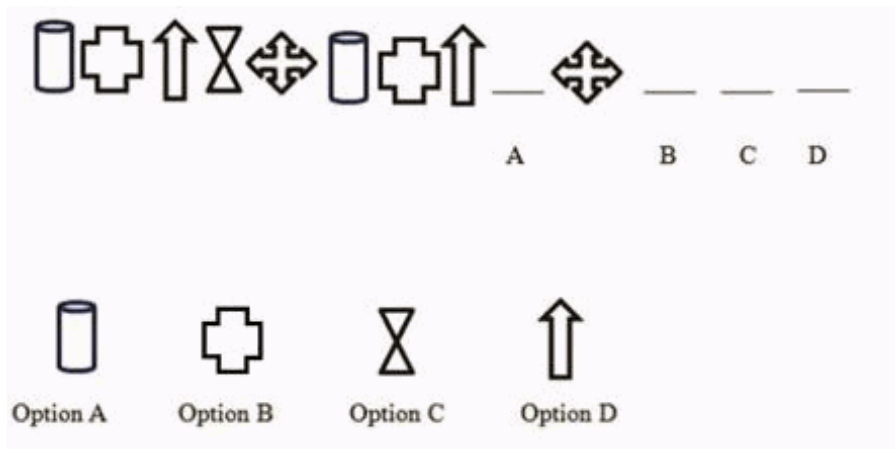
Tom asked Jane to complete this number pattern: -4, -4, -4, -1, -1, -1, 2, 2, 2, \_\_\_\_, \_\_\_\_, \_\_\_\_.  
She gave him 4 answers.

Which one is the correct one?

- A 1, 1, 1
  - B 3, 3, 3
  - C 5, 5, 5
  - D 4, 4, 4
- 

**Question 54**

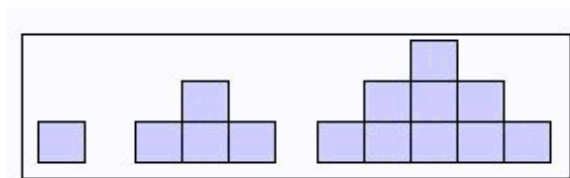
Study the pattern below and choose the shape from the options given that would replace D in the pattern.



- A Option A
  - B Option B
  - C Option C
  - D Option D
- 

**Question 55**

How many squares will there be in the 19th arrangement of the following pattern?

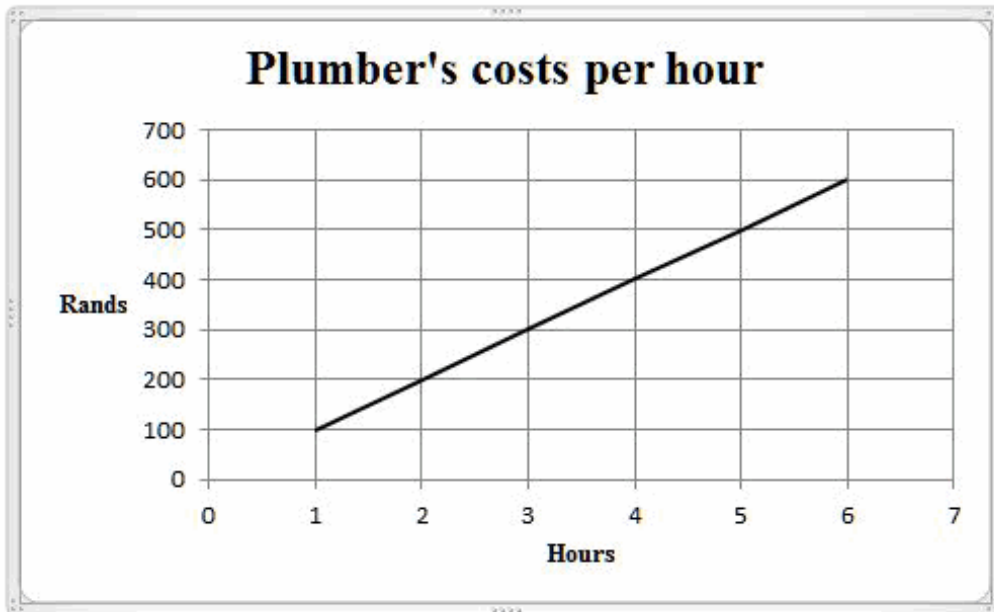


- A 356
  - B 380
  - C 361
  - D 342
-

**Question 56**

A plumber charges a fixed amount of R125 for coming to Peter's house to fix a leaking tap. He then charges a fixed rate per hour for the work done.

According to the graph shown below how much will Peter pay for a 4 hour job done by the plumber?



- A R500
  - B R400
  - C R525
  - D R425
- 

**Question 57**

The table shows the values of  $x$  and  $y$ , where  $x$  is proportional to  $y$ .

What is the value of P?

$x$	3	6	P
$y$	7	Q	35

- A 10
  - B 12
  - C 14
  - D 15
-

**Question 58**

Canoes are rented out at the rates shown in the table below. Sam, his wife and their son decide to rent a single and a double canoe.

Find the total cost of renting the canoes from 10.50 am to 2.15 pm.

<b>TIME</b>	<b>SINGLE CANOE</b>	<b>DOUBLE CANOE</b>
Each hour	R65,00	R80,00
Every subsequent half hour or part thereof	R20,00	R35,00

- A R490,00
  - B R200,00
  - C R580,00
  - D R545,00
- 

**Question 59**

Ethan wanted to buy a second-hand bicycle for R200. During the school holidays, he helped his uncle build a shed and earned the R200 in eight days. Each day his uncle paid him R2 more than the day before.

How much did Ethan earn on the **last** day?

- A R25
  - B R32
  - C R27
  - D R23
-

**Question 60**

a, b, c and d are four adjacent dates in a calendar as shown.

If  $a + b + c + d = 52$ , what is  $a + b$ ?

Mon	Tues	Wed	Thu	Fri	Sat	Sun
		<i>a</i>	<i>b</i>			
		<i>c</i>	<i>d</i>			

- A 25
  - B 19
  - C 27
  - D 26
-