ACER ACADEMY

MID-YEAR EXAMINATIONS 2024

PRIMARY 6

MATHEMATICS

PAPER 2

Total Time for Paper 2: 1 hour 30 minutes

Name : _____

Date : _____

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of an approved calculator is allowed.

Paper 1	45
Paper 2	55
Total	100

This booklet consists of 12 printed pages.

Questions **1** to **5** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. **(10 marks)**

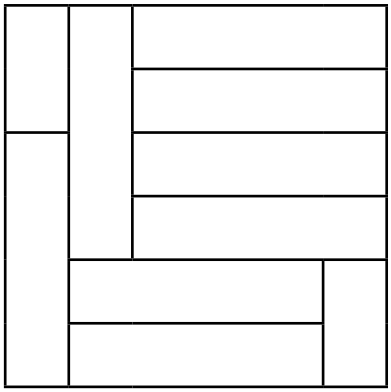
---

1. X, Y and Z are different 2-digit numbers. Their average is 33. Find the greatest possible difference between Y and Z.

Ans: _____

---

2. A square is formed using 8 identical big rectangles and 2 identical small rectangles.
What fraction of the square is covered by the small rectangles?
Give your answer in the simplest form.



Ans: _____

---

3. A chef bought 21 kg of flour. He packed the flour into smaller bags of 4800 g each and had some flour left. How much flour was left?

Ans: _____

---

4. A rectangular tank with dimensions 20 cm by 24 cm by 38 cm is $\frac{1}{6}$ filled with water. How much more water is needed to fill the tank to $\frac{7}{10}$ of its height?

Ans: _____

---

5. Last year, Mr Chan sold an average of 8 mobile phones per month from January to October. He sold 10 mobile phones in November.
Each statement below is either true, false or not possible to tell from the information given.
For each statement, put a tick (✓) in the correct column.

Statement	True	False	Not possible to tell
Mr Chan sold an average of 9 mobile phones last year.			
The total number of mobile phones sold from January to November was 80.			

For questions **6** to **17,** show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(45 marks)

---

6. Jackson had $\frac{4}{5}$ as many stamps as Danial. After Danial gave away $\frac{3}{7}$ of his stamps, Jackson had 40 more stamps than Danial. How many stamps did Jackson have?

Ans: _____ [3]

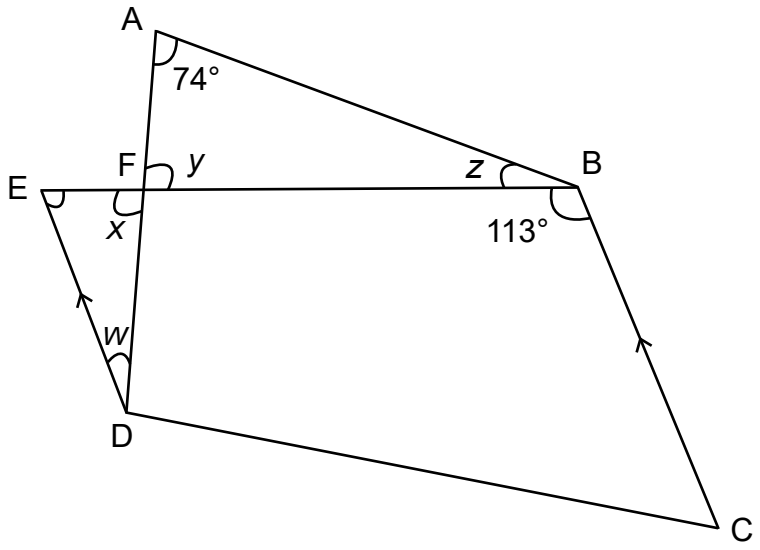
---

7. Kate and Terry had the same amount of money at first. After Kate gave 16% of her money to Terry, Kate had $48 less than Terry. How much money did Kate and Terry have altogether?

Ans: _____ [3]

---

8. In the figure below, EBCD is a trapezium. ED is parallel to BC. ∠FAB = 74° and ∠EBC = 113°. Find the sum of ∠*w*, ∠*x*, ∠*y* and ∠*z*.



Ans: _____ [3]

9. 33 sticks were arranged evenly apart to form the outline of an equilateral triangle. Each corner of the triangle contained a stick and each side of the triangle measured 132 cm. Find the distance between two adjacent sticks.

Ans: _____ [3]

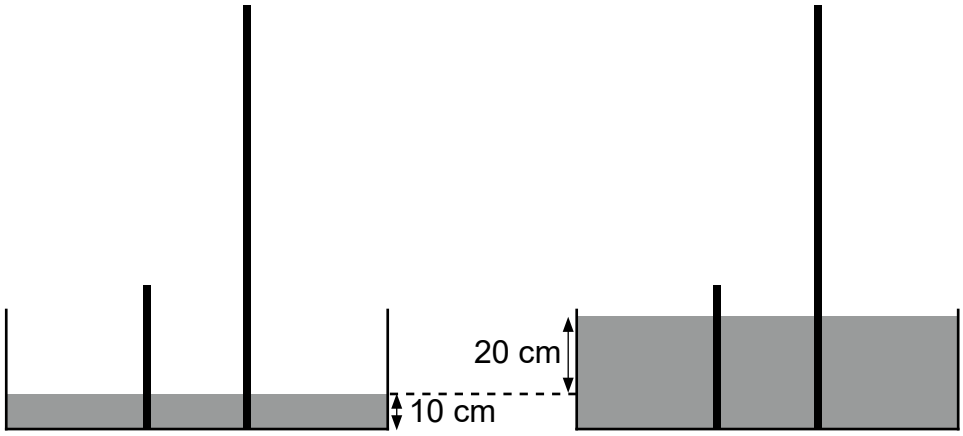
---

10. There were 496 people in a stadium. When $\frac{5}{8}$ of the men and $\frac{4}{7}$ of the women left the stadium, there were a total of 192 men and women remaining. How many men were there in the stadium at first?

Ans: _____ [3]

---

11. The diagrams below show two vertical sticks placed in a rectangular tank containing 10 cm of water at first. The ratio of the length of each stick above the water surface is 2 : 5. When water is added into the tank such that the water level increases by 20 cm, the ratio becomes 1 : 10. What is the length of the longer stick?



Ans: _____ [4]

12. A carpenter bought a rectangular block of wood with dimensions 9 cm by 4 cm by 7 cm. He painted all the faces of the block of wood, and cut it into smaller cubes.

(a) If the carpenter cuts the block of wood into 2-cm cubes, how many cubes will he have?

(b) If the carpenter cuts the block of wood into 1-cm cubes, how many of these cubes will have only 1 of their faces painted?

Ans: (a) _____ [2]

(b) _____ [2]

13. At a carnival, Amos sold bottled drinks in packs of six. Each pack of drink was sold at $3. He sold 60% of the packs at $3, and the rest at a 30% discount. He collected $237.60 from the sale of all the drinks. How many bottled drinks did Amos sell in total?

Ans: _____ [4]

14. The figures are made up of shaded and unshaded squares that follow a pattern.

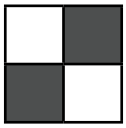


Figure 1

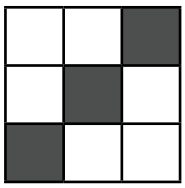


Figure 2

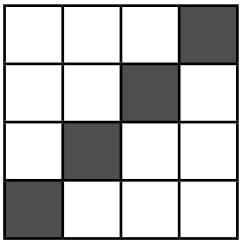


Figure 3

(a) Find the number of shaded, unshaded and total squares in Figure 5.

Figure Number	Number of Shaded Squares	Number of Unshaded Squares	Total Squares
1	2	2	4
2	3	6	9
3	4	12	16
4	5	20	25
5	(i) _____	(ii) _____	(iii) _____

[1]

(b) In which figure is there a total of 289 squares?

(c) A figure in the pattern has a total of 529 squares. What is the number of unshaded squares in the figure?

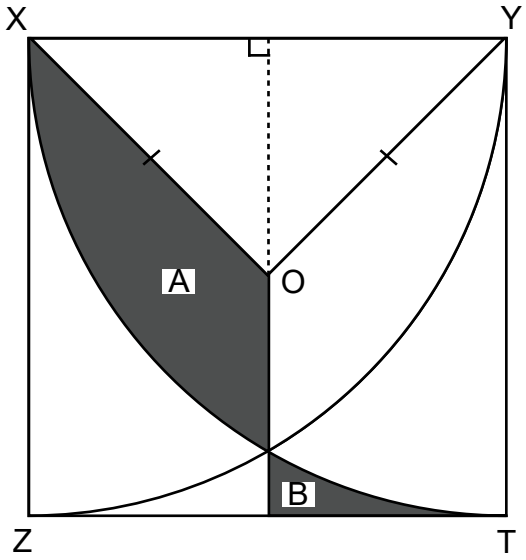
Ans: (b) _____ [1]

(c) _____ [2]

15. Mrs Quek wanted to use to pipes to fill a pool. The first pipe can fill the pool in 6 hours. The second pipe can fill the pool in 8 hours. Two hours after both pipes are turned on, Mrs Quek accidentally opens the pipe which drains the pool completely in 12 hours. With all 3 pipes open, what is the total time taken by Mrs Quek to fill the pool completely?

Ans: _____ [4]

16. The diagram below shows two overlapping quadrants XYZ and YXT. XYO is an isosceles triangle. O is the centre of the square XYTZ. The length of the square is 40 cm. Find the difference in area between the shaded regions A and B.



Ans: _____ [5]

17. Blue stickers were sold in packets of 15 each. Green stickers were sold in packets of 40 each. Reanne bought 5 packets of blue stickers and some packets of green stickers. Dylan bought 13 packets of blue stickers and some packets of green stickers. Both of them bought the same total number of packets of stickers.

(a) How many more green stickers did Reanne buy than Dylan?

(b) After Reanne used $\frac{3}{5}$ of her green stickers and Dylan used half of her green stickers, they both had 452 green stickers left altogether. How many blue and green stickers did Dylan buy altogether?

Ans: (a) _____ [1]

(b) _____ [4]

END OF PAPER