

Student application
number

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First name(s)

Family name

Opportunity Class Placement Test

Mathematical Reasoning Question Paper

Test 01

40 minutes

INSTRUCTIONS TO CANDIDATES

Please read this page carefully.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO.

A separate answer sheet is provided for this test. Please fill in the following information on your answer sheet:

- Student application number
- Given name(s)
- Family name

There are **35** questions in this paper. For each question there are five possible answers, **A, B, C, D** and **E**. Choose the **one** correct answer and record your choice on the separate answer sheet. If you make a mistake, erase thoroughly and try again.

You will **not** lose marks for incorrect answers, so you should attempt **all 35** questions.

You **must** complete the answer sheet within the time limit. There will **not** be any extra time at the end of the exam to record your answers on the answer sheet.

You can use the question paper for working out, but no extra paper is allowed.

Calculators and dictionaries are **NOT** allowed.



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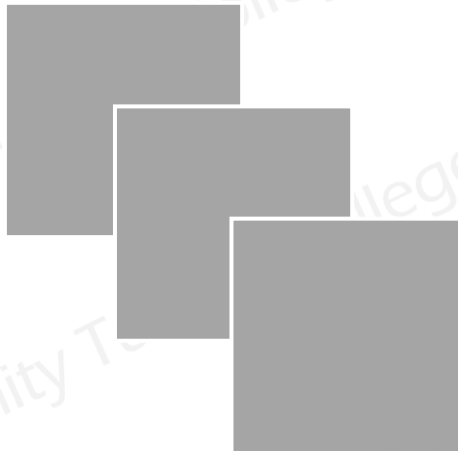
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- 1 There are 3 identical squares of 4 cm^2 area, which overlap each other as shown to create a combined shape. Each square overlaps $\frac{1}{4}$ of the square before it. What is the total area of this combined shape?



- A 10 cm^2
B 12 cm^2
C 9 cm^2
D 15 cm^2
E 14 cm^2
- 2 38, 40, 42 49, 51, 53 _____ , _____ , 64

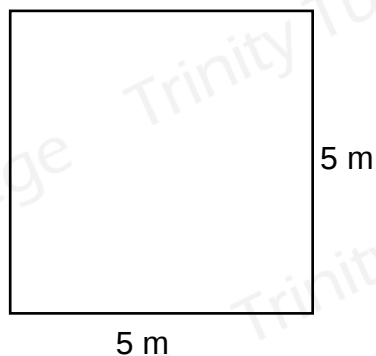
What are the two missing numbers in this pattern?

- A 60, 62
B 61, 63
C 58, 61
D 59, 62
E 53, 55

- 3 The Olympics happen every leap year. This year the Olympics did not happen. If the 14th February was on a Tuesday. What is the date of the first Thursday in March?

A 1st March
B 2nd March
C 9th March
D 8th March
E 7th March.

- 4 James is in an empty room as shown below. How many chairs can he fit across the room if each chair has a square area of 1 m²



■ Chair = 1 m²

A 20
B 15
C 25
D 5
E 10

- 5** James receives 3 marbles every time he wins. James currently has 12 marbles. Assuming he started at 0 marbles, how many games did he win?
- A** 1 game
 - B** 3 games
 - C** 2 games
 - D** 5 games
 - E** 4 games
- 6** A particular bridge requires 10 support beams for every 20 m of bridge. If the bridge is 100 m long, how many support beams does it have in total?
- A** 50 beams
 - B** 100 beams
 - C** 25 beams
 - D** 30 beams
 - E** 80 beams

7 Which of the following is NOT a property of an equilateral triangle?

- A All sides are equal
- B All angles are equal
- C Sum of all angles is 180 degrees
- D One of the angles is a right angle (90 degrees)
- E 3 lines of symmetry

8 There are 5 cars. Each car uses fuel at different rates

Car A	1010 mL per km
Car B	1.2 L per km
Car C	2 L per 2km
Car D	1.5 L per km
Car E	1100 mL per km

Which car consumes the least amount of fuel per kilometre?

- A Car A
- B Car B
- C Car C
- D Car D
- E Car E

- 9** How many pin codes are possible, if you are given the first three numbers. You cannot repeat numbers in your code.

853

- A** 7
B 6
C 10
D 9
E 8
- 10** Emma has a box of chocolates containing 88 chocolate pieces. If she needs to divide the chocolates evenly amongst herself and 3 other friends, how many chocolate pieces will each person get?

- A** 22
B $88/3$
C 20
D 21
E 23

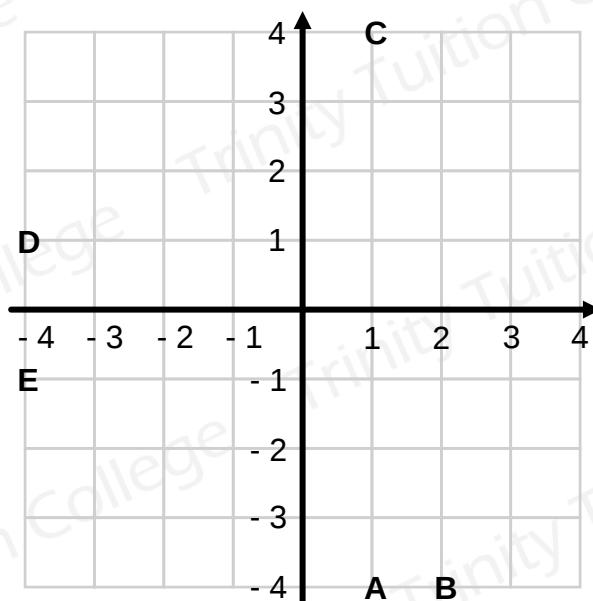
- 11** There are 2 rectangles. If one of rectangle A's sides is longer than rectangle B's, which of the statements below is NOT true?

- A** Rectangle A has a larger area than rectangle B
- B** Rectangle A has a longer perimeter than rectangle B
- C** Rectangle A has more lines of symmetry than rectangle B
- D** Rectangle A has the same width as Rectangle B
- E** Rectangle A is longer than rectangle B

- 12** Which point is Elise referring to when she is describing the point using the following equations:

X coordinate = 1

Y coordinate = 4



- A** Point A
- B** Point B
- C** Point C
- D** Point D
- E** Point E

- 13** John weighed his afternoon tea. It turned out that the biscuits weighed 50 g each while the cookies weighed a total of 300 g. If all of the food weighed a total of 500 g, how many biscuits did he have?

A 4
B 5
C 6
D 3
E 2

- 14** There was a chocolate bar which weighed 500 g. If Daniel and Jacob split it 2:3, how much chocolate did Daniel get?

A 150 g
B 500 g
C 300 g
D 100 g
E 200 g

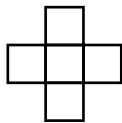
- 15** What is the answer to this equation:

$$12 \times (12 - 5) - 9 = ?$$

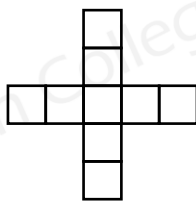
A 75
B 130
C -24
D 84
E 96

- 16** I want to call my friend in London after he gets home from work. If he leaves work at 5:30 pm and takes 30 minutes to get home, what time do I need to call her if Sydney is 17 hours in front of London?
- A** 6:00 pm
 - B** 11:00 pm
 - C** 11:00 am
 - D** 1:00 am
 - E** 1:00 pm
- 17** How many edges does a cube have?
- A** 6
 - B** 10
 - C** 12
 - D** 14
 - E** 16

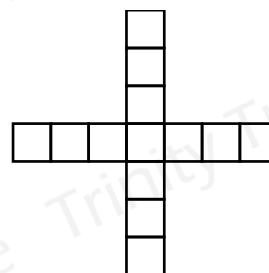
- 18** The following matchsticks are used to make a pattern.



Step 1



Step 2



Step 3

How many straws will I use in step 4?

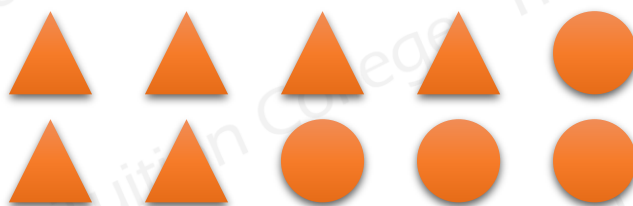
- A** 16
- B** 28
- C** 64
- D** 52
- E** 40

- 19** What is $4.2 \times -0.9 \times -0.1$?

- A** 0.0378
- B** - 0.378
- C** 0.378
- D** - 0.0378
- E** 3.78

- 20** There is 250 kg of cement that is available for workers to use. If every day, 12 kg of cement is used, how many days will it take for the cement to run out?
- A** 20 days
 - B** 21 days
 - C** 22 days
 - D** 23 days
 - E** 24 days
- 21** Peter ate $\frac{2}{9}$ of a pizza. Jamie ate $\frac{1}{3}$ and Luke ate the rest. How much did Luke eat?
- A** $\frac{3}{9}$
 - B** $\frac{2}{9}$
 - C** $\frac{4}{9}$
 - D** $\frac{6}{9}$
 - E** $\frac{5}{9}$
- 22** A bean sprout grows at a rate of 5 mm / month. How many months will it take for the bean sprout to grow to a length of 30 mm?
- A** 5 months
 - B** 6 months
 - C** 7 months
 - D** 8 months
 - E** 9 months

- 23** I have a collection of different shapes:



I traded some of my shapes with my friends. The number of triangles I have is now equal to the difference of the original number of triangles and original number of circles, multiplied by 3.

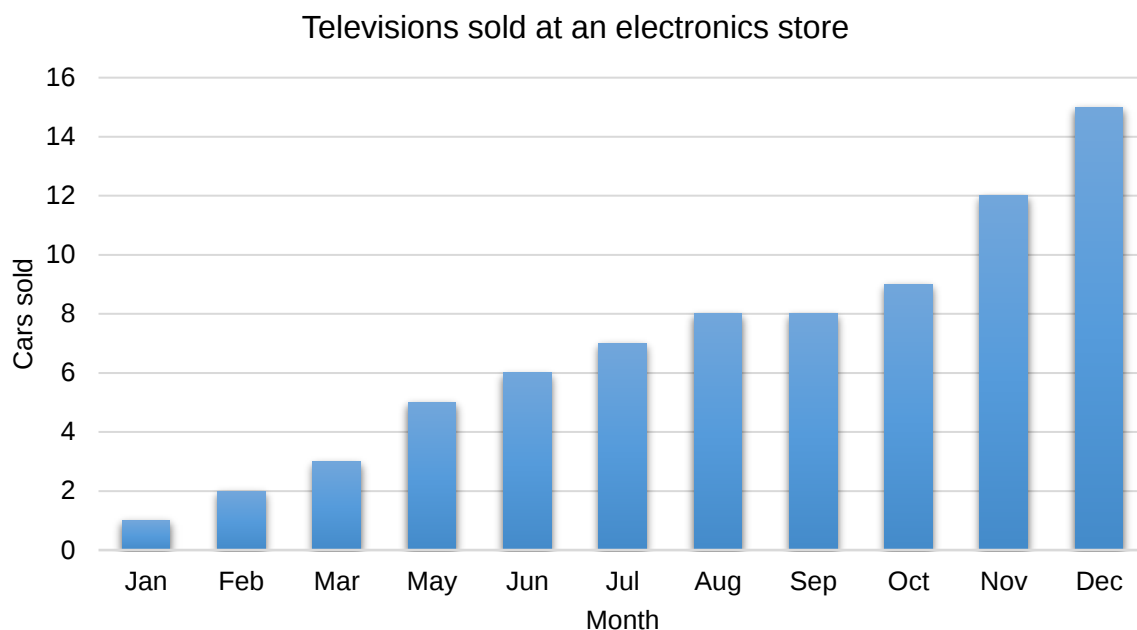
How many triangles do I have now?

- A 3
- B 4
- C 2
- D 5
- E 6

- 24** What is 1564 divided by 17?

- A 93
- B 92
- C 91
- D 90
- E 89

- 25** The amount of televisions being sold at an electronics store per month is shown on the graph.



How many more televisions were sold in July than June?

- A** 1
 - B** 2
 - C** 3
 - D** 4
 - E** 5
- 26** The combined age of Sue and Jessica is 60 years. If Jessica is half the age of Sue, how old is Sue?

- A** 20
- B** 40
- C** 15
- D** 30
- E** 35

- 27** A farmer plants strawberry seeds on his fields. If he harvests 200 strawberries every month, how many will he have harvested by January of the next year if he started in January this year?
- A** 200 strawberries
 - B** 500 strawberries
 - C** 2400 strawberries
 - D** 1200 strawberries
 - E** 2200 strawberries
- 28** I bought a new phone for half price using a discount code. If I paid only \$375, how much is the phone full price?
- A** \$750
 - B** \$187.50
 - C** \$500
 - D** \$650
 - E** \$700

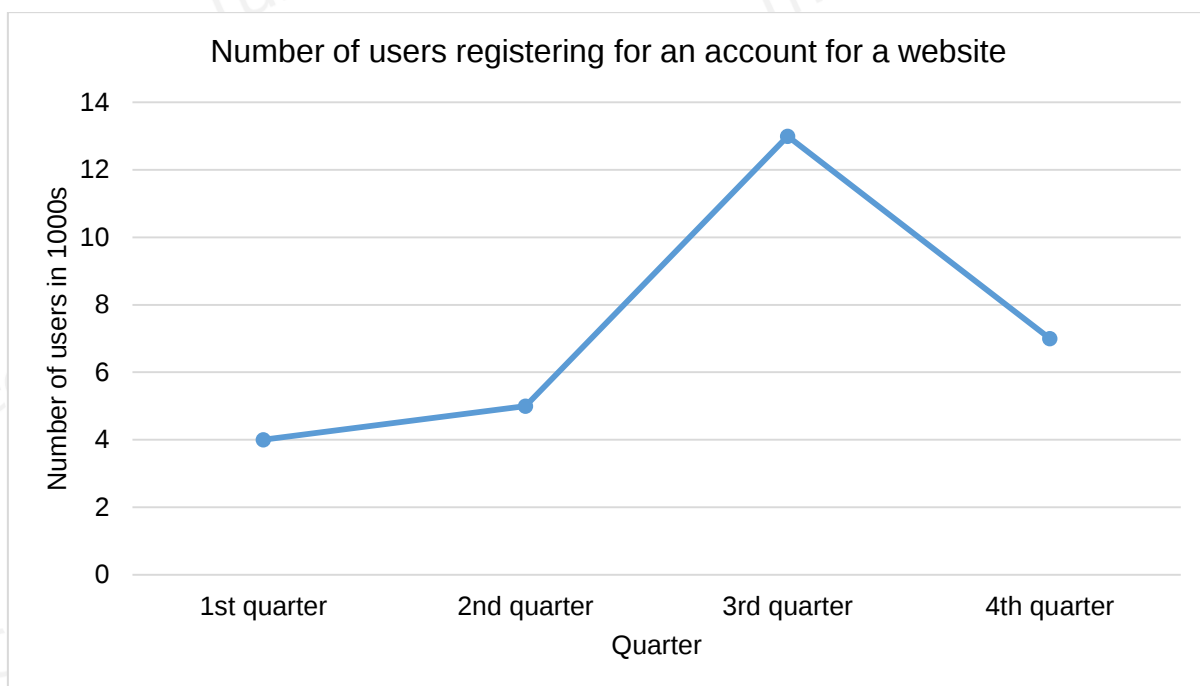
- 29** In a Maths exam, there were 7 sets of results from the students. The scores were as following:

Exam scores
65
15
52
75
69
75
57

What was the median score?

- A** 65
B 69
C 75
D 52
E 15
- 30** It takes 1 man 10 minutes to change 1 tyre. How long does it take 2 men to change 1 tyre?
- A** 8 minutes
B 5 minutes
C 6 minutes
D 7 minutes
E 2 minutes

- 31** This graph represents the amount of users registering for an account for a website.



Choose the correct statement

- A** Altogether, the number of users were 28 thousand
- B** There were 1 more user in the 2nd quarter than the 1st quarter.
- C** Number of users have been going up throughout the quarters.
- D** There were a depression in new users from the 2nd quarter to the 3rd quarter.
- E** The 4th quarter saw the second highest number of users registering for an account
- 32** Keith was facing Southeast. If he makes a 90 degree turn to his right, what direction is he facing now?
- A** Northwest
- B** Southwest
- C** North
- D** East
- E** West

- 33** Andrew and Todd have a race along a straight track. Their speeds are 10 and 20 km/h, respectively. How much quicker does Todd finish compared to Andrew?
- A** Twice as fast
 - B** Twice as slow
 - C** Same time
 - D** Three times as fast
 - E** Not enough information
- 34** The rabbits outside Sydney airports have been reported to be reproducing at a catastrophic rate. The security guards have observed that the number of rabbits at the end of three days totalled 2700. If the number of rabbits observed on a given day is triple the previous day, how many rabbits were there at the start?
- A** 80
 - B** 100
 - C** 90
 - D** 70
 - E** 200
- 35** What is the value of $36 \div (7 - 1)$
- A** 6
 - B** $36/7 - 1$
 - C** 12
 - D** 3
 - E** 4

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