Given name(s)

Family name

Selective High School 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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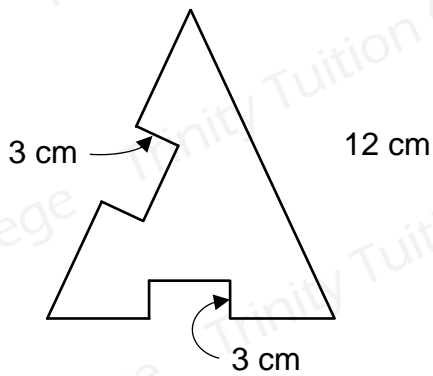**Please join our Facebook Group for more questions and solutions**

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1   The following shape is an equilateral triangle.

What is the perimeter of the triangle?

3 cm

12 cm

3 cm

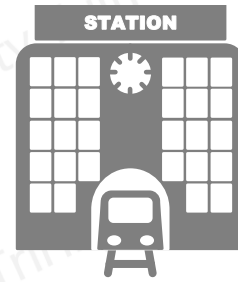Not to scale drawing

A   36cm

B   48cm

C   18cm

D   42cm

E   44cm

2   A train is travelling at 40km/hr from Gotham city to Strathfield.

The distance between Gotham city to Strathfield is 24km.
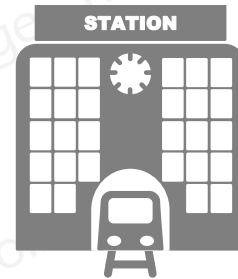
24 km

A bus travels at 20km/hr from Tornado town to Strathfield.

The distance between Tornado town to Strathfield is 16km.

16 km

If the train leaves at 4:15pm from Gotham city, what time will I need to get on the bus to leave Tornado town to reach Strathfield at the same time as the train

A   4:27

B   4:35

C   4:31

D   4:45

E   4:03

3   Peter works at Subway and makes sandwiches. He requires 2 cheeses, 2 pieces of breads, 5 meat balls and 1 pickle to make each sandwich.

Peter goes to the storeroom and finds 867 pieces of cheese, 1900 pieces of bread, 7000 meat balls and 7000 pickles. How many whole sandwiches can Peter make?

A   503

B   89

C   1400

D   867

E   433

4   8   ×   ⬟   =   536

⬟   ×   ▲   =   268

⬟   −   ▲   =   ?

What is the value ?

A   67

B   30

C   25

D   12

E   63

5 Trevor is making a mixed cordial drink. He uses cordial as shown in the picture. He pours the water into the jug to make a 0.8L mixed cordial drink and drinks 0.2L of it. How much water is currently in the mixed cordial drink?
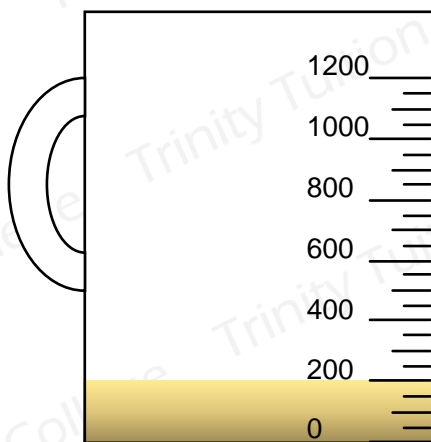
A   600mL

B   500mL

C   450mL

D   250mL

E   800mL

6 How many students studied for more than 5 hours a week at home?

Hours studied throughout the week
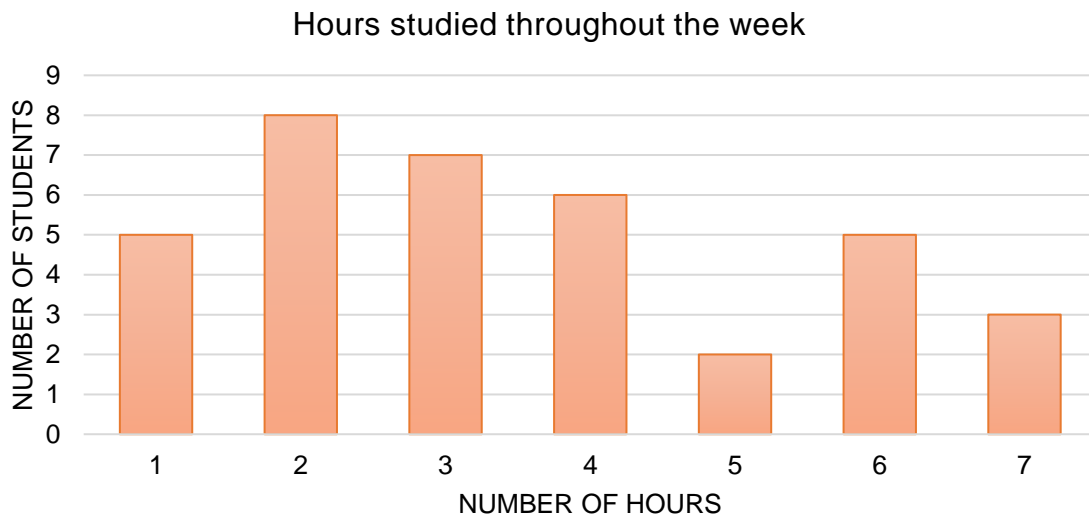
A 3

B 8

C 10

D 7

E 2

7 Kim, Ben and Tony all receive their exam papers back.

Kim's exams	Ben's exams	Tony's exams
English: 75	Science: 50	Maths:
Science: 94	Maths: 99	English:
Maths: 88	English: 67	Science:

If the average maths mark between the three of them was 85, what mark did Tony get?

A 100

B 78

C 94

D 85

E 68

8   Will puts \$10 in a bank account and receives 10% interest after the first year. He decides to leave the \$10 plus interest in the bank for another year to get another 10% interest on the entire amount. How much money does he have now?

    A   \$1

    B   \$11

    C   \$12

    D   \$12.10

    E   \$2.10

9   It takes 40 minutes for an egg to go down in temperature by 2 degrees Celsius. Dan uses a thermometer to check the current temperature and it reads:

38.75

35
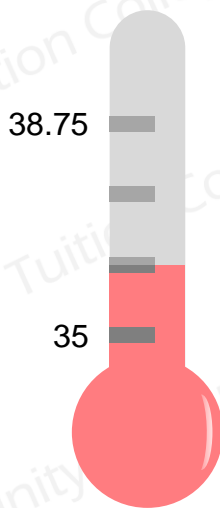
How long will it take for the egg to be 28.25 degrees Celsius.

    A   2 hours and 40 minutes

    B   4 hours and 20 minutes

    C   40 mins

    D   1 hour and 10 mins

    E   2 hours and 20 mins

10 How many lines of symmetry would this shape have?
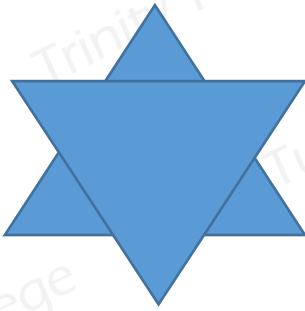
A   3

B   4

C   10

D   6

E   8

11 The following graph shows the distance travelled by a cyclist each hour, over 4 hours. The cyclist travelled 1kn in the first hour and another 2km in the second hour as seen in the diagram.

Time (Hours)

◆ Time (Hours)
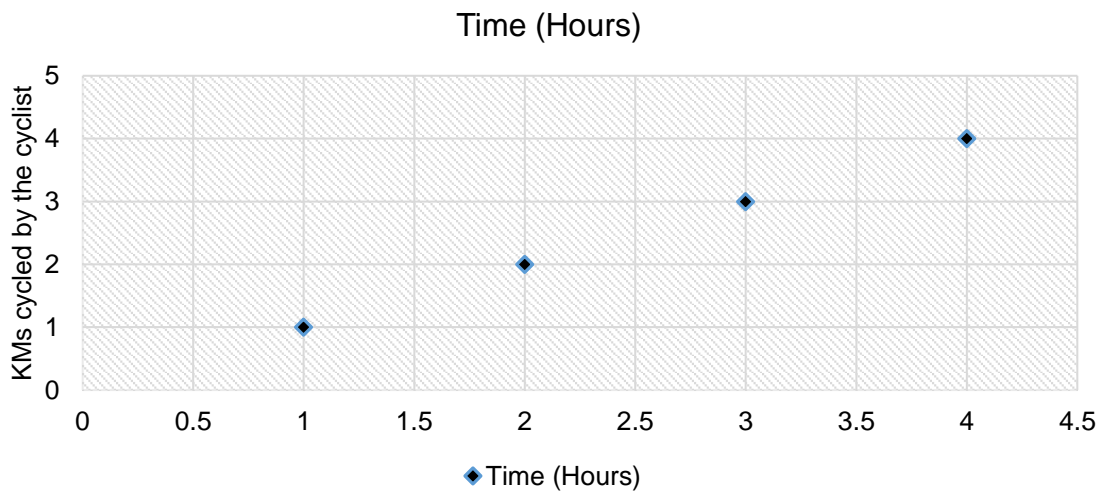
What is the total distance travelled by the cyclist?

A   4kms

B   3kms

C   8kms

D   10kms

E   5kms

12 Shapes A and B have the same area.

A   B

8 cm   2 cm

X

8 cm

What is the length of X?

A   64 cm

B   32 cm

C   8 cm

D   9 cm

E   12

13 Jessica spins the spinner. Once the spinner lands on a segment, that segment is removed. After a segment is removed, the remaining segments redistribute to occupy the removed space.
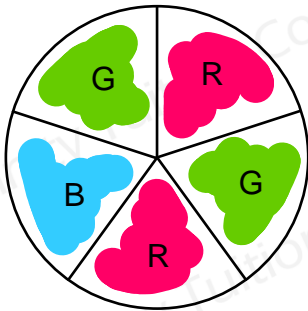
If Jessica spun the spinner and it landed on green on her first spin, what is the probability of landing on green again in her second spin?

A   1 in 5

B   1 in 4

C   2 in 4

D   2 in 5

E   1 in 3

14   On the tombstone of The Great Egyptian Pharaoh Tutankhamen it reads:

Lived from:

CM – MXVIII

From what years did Tutankhamen live?

A   900 – 1018

B   600 – 918

C   900 – 1015

D   900 – 1017

E   700 – 1018

15   The wheel on a bike spins 42 times in a minute. Given the circumference of the wheel is as follows:

50 cm

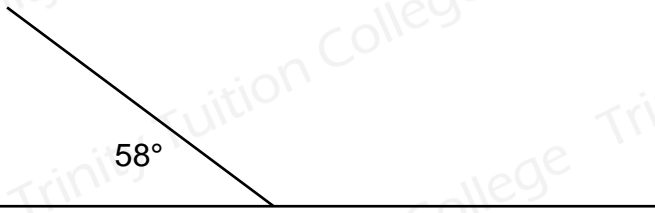What is the distance the bike travelled after 2 hours and 15 minutes.

A   238m

B   2100cm

C   2.835km

D   4.25km

E   1.50km

16　There is a straight line with one line coming out of it from the middle, making two angles as shown below:

58°

What is the angle of the obtuse angle?

A　132°

B　158°

C　122°

D　180°

E　not enough information

17　Carlo, Ben and Richard decide to share a pizza. Carlo ate 1/4 of the pizza, Ben ate 3/8 of the pizza and Richard ate the remainder.


Which of the statements hold true?

A: Carlo ate more than Richard

B: Richard ate more pizza than Ben or Carlo

C: Ben and Richard ate the same amount of pizza

A　Statement A

B　Statement B

C　Statement C

D　Statement A and B

E　Statement B and C

18 It takes 35 minutes to paint one side of a cube. Jill wanted to paint the outside of an open box for her girlfriend. How long does it take him?

     A   175 minutes

     B   180 minutes

     C   185 minutes

     D   190 minutes

     E   210 minutes

19 There was a class survey of 20 people

If 8 people played basketball and 17 people played soccer.

Basketball   Soccer

8   17
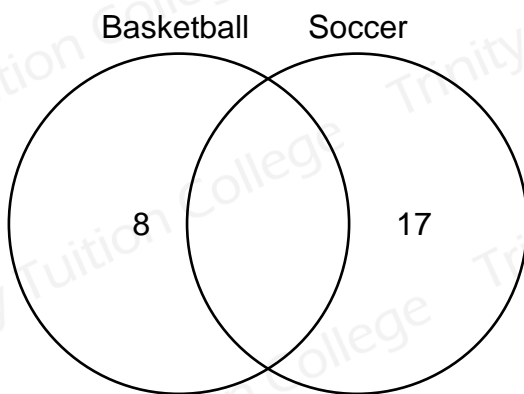
How many played both?

     A   9

     B   25

     C   17

     D   8

     E   5

20   In a magic square, each row, diagonal and column add up to the same total.

In the square some of the numbers are missing.

4		2
		7
X		6

What number is the X
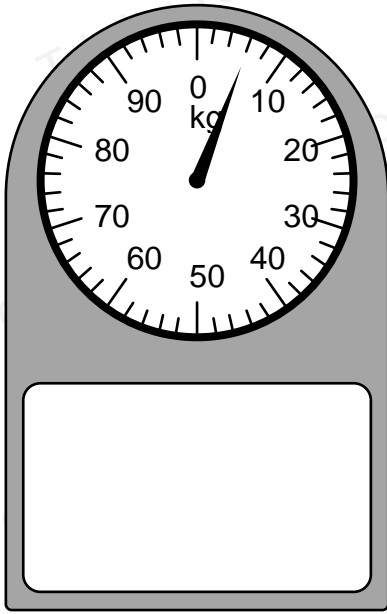
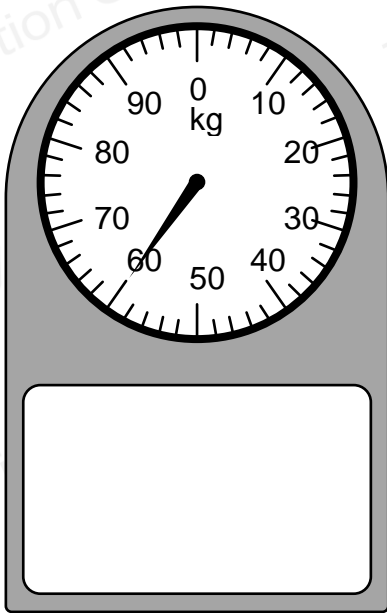**A**   15

B   8

C   7

D   9

E   4

21   Tim is given a faulty scale which does not start at 0kgs even if nothing is there.

He weighs his phone and his shoes on the scale and it makes more than 1 full turn.

If Tim knows his shoes weigh 40kgs, how much does his phone weigh?

A   20kgs

B   14kgs

C   80kgs

D   74kgs

E   114kgs

22 The triangle shape and the circle shape represent different numbers.
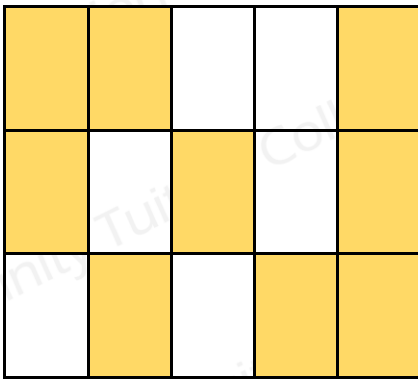
$2 \times \triangle + \bigcirc = 15$

$2 \times \bigcirc + 2 \times \triangle = 18$

What is the value of one triangle?

A   4

B   6

C   3

D   8

E   5

23 James is going to paint his desk. He divides it up into 15 equal parts. He paints the desk as shown below:

He decides to paint 1/15 of the desk blue and 1/5 of the desk black. How much space does he have to paint the desk red

A   2/5

B   1/3

C   3/5

D   1/15

E   7/15

24 Aisha got her change back after buying a burger. The burger was $8.70 and she paid with $20.

If she was only paid with silver coins what is the minimum number of coins she received?

A   24

B   26

C   12

D   10

E   15

25 What is the total sum of vertices, faces and edges on a square pyramid?

A   12

B   14

C   18

D   13

E   17

26 How many numbers between 0 and 50 are divisible by 2, 3 and 6?

    A   8

    B   12

    C   15

    D   7

    E   9

27 Michelle spilled water on her dining table. The dimensions are as follows:

18 cm

9 cm

If the water covered a third of the table, how many whole tissues would be required to wipe up all the water, if each tissue is able to absorb 2.5 cm^2

    A   21

    B   20

    C   22

    D   18

    E   54

28　Annie has a clock that has the wrong time. She rotates the hour hand so that it moves from the 12 to the 5 in the fastest way possible.
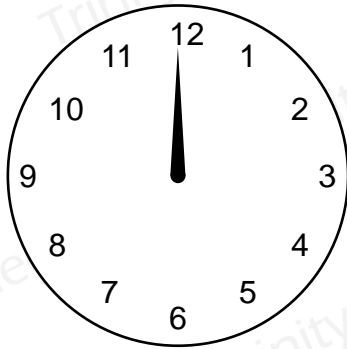
How many degrees did she have to move the hour hand to make this adjustment?

A　150 degrees

B　50 degrees

C　210 degrees

D　120 degrees

E　360 degrees

29　Bethany's watch reads 1430 in 24 hour time.

What was the time 76 minutes ago in 12 hour time?

A　1:14pm

B　2:30pm

C　1:14am

D　2:30am

E　3:46pm

30   Alex collects basketball cards and soccer cards.

All the basketball cards have the same value.

Soccer cards have a different value to basketball cards. However every soccer card has the same value.

If Alex collects 4 basketball cards and 3 soccer cards it is worth $50.

 = $50

If Alex collects 2 basketball cards and 1 soccer card it is worth $22

 = $22

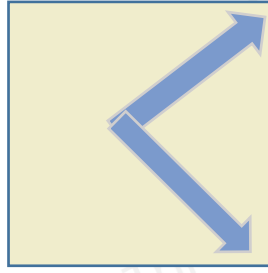How much is 1 basketball and 1 soccer card worth?
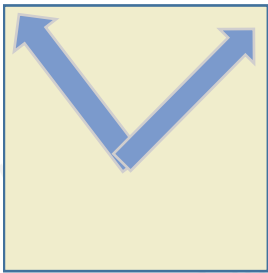

A $12

B $18

C $14

D $16

E $20

31 John is playing monopoly with his friends. He rolls the following number on his first roll.

What is the probability that he will roll a four or an odd number on his second roll?

A 2/3

B 1/2

C 5/6

D 1/6

E 2/5

32 A square is rotated anti clockwise to the new position.

How many degrees has it rotated?

A 90°

B 120°

C 150°

D 360°

E 270°

33 There are 68 cookies in the jar. Half of those cookies are eaten and the remaining is thrown out until there is 5 cookies left. Which number sentence shows this information?

   A   5 + 29 + 2 x 34 = 68

   B   (68 / 2) − 19 = 5

   C   (68 / 2) − 29 = 5

   D   (68 / 2) − 39 = 5

   E   29 − 5 x 2 = 68

34 It takes 1 male monkey 20 seconds to finish a banana. If there are 5 male monkeys, how many bananas do you need if you want to feed them for 1 hour?

   A   100

   B   600

   C   860

   D   900

   E   1500

35 James and Jessie round up the same number: 894838793

James rounds up the number to the nearest thousand

Jessie rounds up the number to the nearest million

What is the difference between their two numbers?

   A   163050

   B   15300

   C   1610000

   D   161000

   E   17000

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