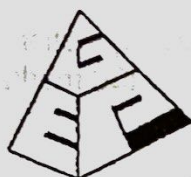


Name: [Signature]
School: Catholic High School (Primary)

Class: Primary 5 [Signature]
Register No.: [Signature]



GIFTED EDUCATION PROGRAMME



ANGLO-CHINESE SCHOOL (PRIMARY)



CATHOLIC HIGH SCHOOL (PRIMARY)



HENRY PARK PRIMARY SCHOOL



NAN HUA PRIMARY SCHOOL



NANYANG PRIMARY SCHOOL



RAFFLES GIRLS' PRIMARY SCHOOL



ROSYTH SCHOOL



ST. HILDA'S PRIMARY SCHOOL



TAO NAN SCHOOL

END-OF-YEAR EXAMINATION MATHEMATICS PRIMARY 5 (GEP)

PAPER 2

Wednesday

25 October 2017

1 h 40 min

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all the questions.

You are allowed to use a calculator.

Write the calculator model number in the space below.

Calculator Model Number: fx-96SG PLUS CASIO

Total	60 /60	[Signature]
-------	--------	-------------

This paper consists of 15 printed pages (including this cover page).

- For questions 1 to 18, show your workings clearly in the space provided below each question and write your answer with appropriate units in the spaces provided. All diagrams are NOT drawn to scale. Answers in fractions must be expressed in the simplest form. Marks will be awarded for relevant working.

The number of marks available is shown in brackets [] at the end of each question or part-question. (60 marks)

- 1 Cynthia has less than 40 cookies. If she puts them into packets of 5, she will have 2 cookies left. If she puts them into packets of 7, she will be short of 3 cookies. How many cookies does she have?

$$n \div 5 = R2$$

$$n \div 7 = R4$$

$$7+4=11$$

$$11, 18, 25, 32, 39$$

$$11 \div 5 = R1$$

$$18 \div 5 = R3$$

$$25 \div 5 = 5$$

$$32 \div 5 = R2$$

$$39 \div 5 = R4$$

Answer:

32 cookies [2]

She has 32 cookies

- 2 There are 6 people at a party. All of them shake hands with one another only once. How many handshakes will there be altogether?



$$5+4+3+2+1=15$$

$$6C_2 = \frac{6 \times 5}{1 \times 2} = 15$$

Answer:

15 handshakes [2]

There will be 15 handshakes.

- 3 Sophia puts some 50-cent and 10-cent coins in a box. There are 24 more 10-cent coins than 50-cent coins in the box. The total value of 50-cent coins is \$4 more than the total value of 10-cent coins. How many 50-cent coins are there in the box?

$$24 \times 0.1 = 2.4$$

$$2.4 + 4 = 6.4$$

$$6.4 \div (0.5 - 0.1) = 16$$

$$* 10 \text{¢ } 50 \text{¢}$$

Qty

1st 24

1st 10

Each

10

10¢ + 240

50¢

$$10 \times 24 = 240$$

$$= 40 \times 10 = 400$$

$$= 16 \times 10 = 160$$

16 50-cent coins

[2]

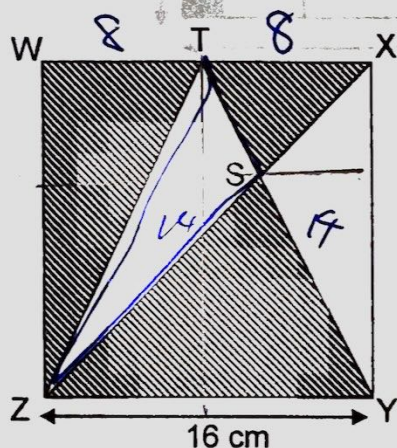
2

There are 16 50-cent

Answer:

coins in the box.

- 4 The figure below is a square WXYZ of side 16 cm. T is the midpoint of WX. TY intersects XZ at point S. Area of triangle TSZ is 14 cm². What is the total area of the shaded parts?



$$14 \times 2 = 28$$

$$16^2 - 28 = 256 - 28 = 228$$

The area of the shaded parts is 228 cm²

Answer:

228

cm² [2]

2

- 5 Figure A below shows a rectangular tile made up of a black square and a white rectangle. The length of the white rectangle is twice the length of the black square.



Figure A

Figure B shows a floor covered ^{entirely} with such rectangular tiles in only 2 horizontal orientations:  or .

What is the total area of the floor covered by the white rectangles?

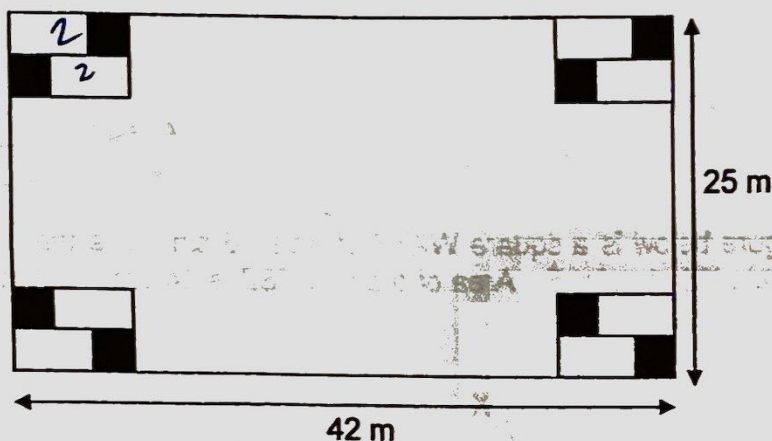


Figure B

$$\frac{14}{42 \times 25} \times 2 = 14 \times 50$$

$$= 700$$

The total area covered by white rectangles is 700m².

Answer: 700 m² [2]

- 6 Sally has the exact amount of money to buy 10 files and 15 pens. She can only buy 6 files and 21 pens with the same amount of money. She wants to use all her money to buy only files. How many files can she buy?

$$10f + 15p = 6f + 21p$$

$$4f = 6p$$

$$2f = 3p$$

$$15p = 10f$$

$$10f + 10f = 20f$$

She can buy 20 files

Answer: 20 files [3]

- 7 Sarah runs around the track once every 3 days. Catherine runs around the same track once every 4 days. If they met on 8 February, on which date in February would they meet again?

$$4 = 2^2$$

$$3 = 3^1$$

$$2^2 \times 3^1 = 12$$

They meet on 20 February again.

Answer: 20 February [3]

- 8 The height of a cuboid is twice its breadth. The length of the same cuboid is 3 times its height. The volume of the cuboid is 324 cm^3 . Find the breadth of the cuboid.

$$B : L : H$$

$$1 : 6 : 2$$

$$12 \times 22 \times 6x = 1223$$

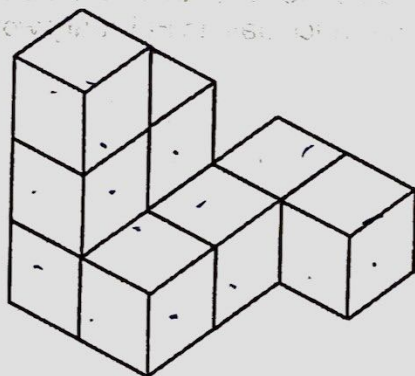
$$324 \div 12 = 27$$

$$\sqrt[3]{27} = 3$$

The breadth is 3 cm.

Answer: 3 cm [3] 3

- 9 Nine identical 2-cm cubes are glued together to form the solid figure below. Find the total surface area of the figure.



$$2(5 + 6 + 6) = 34$$

$$2 \times 2 = 4$$

$$34 \times 4 = 136$$

The surface area of the figure is 136 cm^2 .

Answer: 136 cm^2 [3] 3

- 10 For every box of tea sold, Mr Tan will earn \$1.60. He will earn an additional \$12 for every 30 boxes of tea sold. What is the minimum number of boxes of tea Mr Tan must sell to earn at least \$740?

$$1.60 \times 30 = 48$$

$$48 + 12 = 60$$

$$740 \div 60 = 12 \text{ R } 20$$

$$20 \div 1.60 = 12.5$$
$$\approx 13$$

$$12 \times 30 = 360$$

$$360 + 13 = 373$$

Mr Tan must sell 373 boxes of tea to earn at least \$740.

Answer: 373 boxes [4]

11. Some pupils went for an outing in 3 buses, Bus A, Bus B and Bus C. The ratio of the number of pupils in Bus A to the number of pupils in Bus B was 4 : 5. The ratio of the number of pupils in Bus B to the number of pupils in Bus C was 2 : 1. There were 12 pupils more in Bus A than in Bus C.

- a) What was the ratio of the number of pupils in Bus A to the number of pupils in Bus C?
b) How many pupils were in Bus B?

$$\begin{array}{rcl}
 A & : & B : C \\
 4 \times 2 & : & 5 \times 2 \\
 & & 2 \times 5 : 1 \times 5 \\
 \hline
 8x & : & 10x : 5x \\
 A:C = 8:5 \\
 3x = 12 \\
 x = 4 \\
 \text{or } 40
 \end{array}$$

The ratio is 8:5.

There were 40 pupils.

Answer: a) 8:5 [2] ²
b) 40 pupils [2] ²

- 12 There are 50 passengers on a bus. 60% of the passengers are females. 12 females and some males alighted at a bus stop. Then, 10 females and 2 males boarded the bus. Now, there are 40% more females than males on the bus. How many males alighted from the bus?

$$\begin{array}{rcl} F & : & M \\ 30 & : & 20 \\ -2 & & -n \\ & & +2 \end{array}$$

$$\begin{array}{rcl} 28 & : & 22-n \\ 7 & : & 5 \end{array}$$

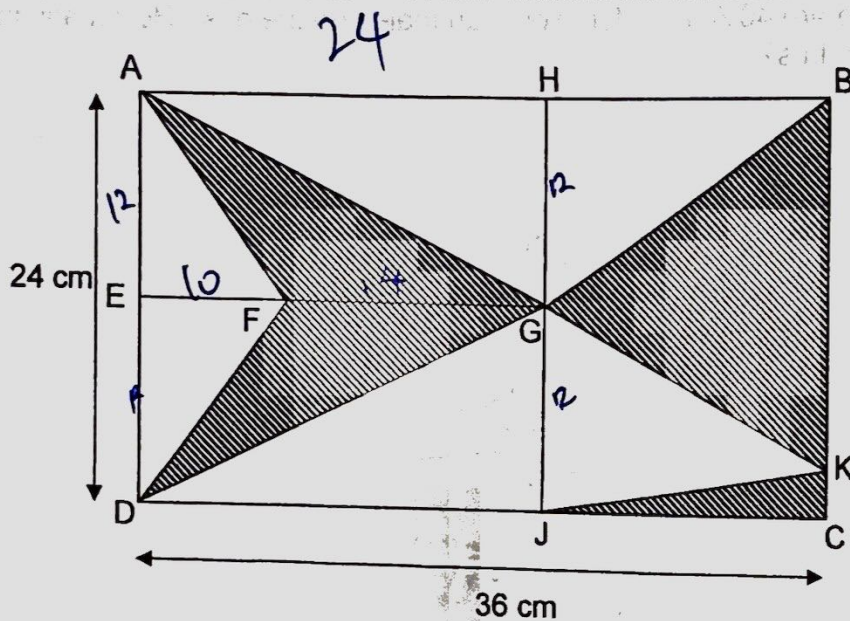
$$\begin{array}{l} 154 - 7n = 140 \\ 7n = 14 \\ n = 2 \end{array}$$

2 males alighted from the bus.

Answer: _____ [4]

2 males 4

- 13 In the figure below, AHJD is a square and HBCJ is a rectangle. EFG is a straight line, $AE = HG = GJ$ and $GF = 14$ cm. What is the total area of the shaded parts?



$$24 - 14 = 10$$

$$\frac{18}{36} \times 24 = 432$$

$$432 - \frac{10 \times 24}{2} = 432 - 120 = 312$$

The area of the shaded parts is 312 cm^2 .

Answer: 312 cm^2 [4]

- 14 Mr Sim had to post 2 types of parcels, A and B, to Japan. The postage for each Type A parcel was \$20 and for each Type B parcel was \$15. He posted thrice as many Type B parcels as Type A parcels. He paid a total of \$1170 in postage for all the parcels.

a) How many parcels of Type A did he post?

b) What was the difference in the amount of money spent on postage for Type A and Type B parcels?

$$\begin{array}{r} A : B \\ 20 : 15 \\ \times 1 \quad \times 3 \\ \hline 20 : 45 \end{array}$$

$$20 + 45 = 65$$

$$1170 \div 65 = 18$$

$$18 \times 20 = 360$$

$$18 \times 45 = 810$$

$$810 - 360 = 450$$

$$810 - 360 = 450$$

He posted 18 Type A parcels.

The difference was \$450.

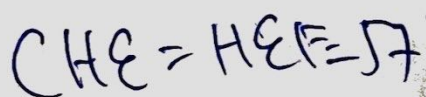
Answer: a)

18 parcels [2] 2

b)

\$450 [2] 2

- Given that $AB = BG$, $HC \parallel FD$, $\angle CHE = 57^\circ$ and $\angle CDE = 23^\circ$, find $\angle BGE$.



$$180 - 90 - 23 = 67$$

$$67 + 33 = 100$$

$$1800 - 100 = 80$$

$$\angle BGE = 80^\circ$$

80

4

[4]

- 17 A fruit seller had 20 more mangoes than pears at first. After he sold $\frac{1}{2}$ of the mangoes and $\frac{2}{3}$ of the pears, he was left with 12 more mangoes than pears.

- a) How many pears did he have at first?
b) What fraction of the remaining fruits were pears?

$$\begin{array}{rcl}
 M & : & P \\
 3x + 20 & : & 30x \\
 - 15x + 10 & : & - 20x \\
 \hline
 15x + 10 & : & 10x
 \end{array}$$

$$15x + 10 = 10x + 12$$

$$5x = 2$$

$$30x = 12$$

$$10x = 4$$

$$15x = 6$$

$$6 + 10 = 20$$

$$16 + 4 = 20$$

$$\frac{4}{20} = \frac{1}{5}$$

He had 12 pears at first

$\frac{1}{5}$ of the remaining fruits were pears.

Answer: a) 12 pears [3] 3
b) $\frac{1}{5}$ [2] 2

- 18 In a class, 40% of the pupils were boys. 108 erasers were given to the pupils. Each boy received 3 erasers while each girl received 2 erasers.

a) How many boys were there in the class?

b) $66\frac{2}{3}\%$ of the boys gave $\frac{2}{3}$ of their total number of erasers to the girls.

How many erasers did these boys give away altogether?

$$\begin{array}{rcl}
 B & 18 & : G & 27 \\
 40\% & & : & 60\% \\
 \times 3 & & : & \times 2 \\
 \hline
 120\% & & : & 120\%
 \end{array}$$

$$108 = 240\%$$

$$120\% = 54$$

$$54 \div 3 = 18$$

$$18 \div 3 \times 2 = 12$$

$$12 \times 3 = 36$$

$$36 \div 3 \times 2 = 24$$

There were 18 boys in the class.

These boys gave away 24 erasers altogether.

Answer: a) 18 boys [2] 2

b) 24 erasers [3] 3

End of Paper