



SEKOLAH BUKIT SION

Middle School Term 4 Examination

STUDENT
NAME

EXAM
NUMBER

GRADE

MATHEMATICS

Paper 1 Short Answer Questions

Grade 7

23 May 2018

60 minutes

Students answer on the Question Paper.

Additional Materials: Protractor, Ruler

READ THESE INSTRUCTIONS FIRST

Write your name, exam number and grade on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

Calculators are **NOT** allowed in this paper.

Answer **all** questions.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

1. $\sqrt{9}$ **9** $\frac{5}{8}$ **21** **-6** π **-0.75** **0.33** **-18** $3\frac{2}{5}$

From this list, write down

- (a) a positive integer [1]
- (b) a prime number [1]
- (c) a negative integer [1]
- (d) a square number [1]

2. (a) Express

- (i) $\frac{17}{40}$ as a percentage [1]
- (ii) 0.36 as a fraction in lowest terms [1]
- (iii) $3\frac{2}{5}\%$ as a decimal [1]

(b) Evaluate, by showing complete working

- (i) $7\frac{1}{4} - 6\frac{2}{3}$
..... [2]

- (ii) $15.05 \div 0.5$
..... [2]

(c) Given that area of a rectangle is 40.5 cm^2 correct to the nearest 0.1 cm^2 ,

write its

- (i) upper boundary [1]
- (ii) lower boundary [1]

3. Given the formula $v = u + at$:

(a) Find v when $u = 5$, $a = -1$ and $t = 2$.

Answer: [2]

(b) Rearrange it to make a the subject of the formula.

Answer: [2]

4. Translate into algebraic expression:

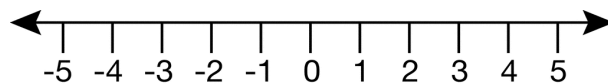
Five times a number added by 2 is equal to 6 more three times the number.

Answer: [2]

5. (a) Find all values of x for the inequality $4x - 10 < 10$.

Answer: [1]

(b) Show $x > -2$ on the number line.



[1]

6. Here are the first four terms of a sequence.

11 8 5 2

(a) Describe the pattern of the sequence above.

..... [1]

(b) Write the formula of the n th term in this sequence.

Answer: [1]

7.

(a) Express the ratio 700 g to 1.75 kg in its lowest terms

Write your answer in the form $m : n$, where m and n are integers.

Answer: [1]

(b) A sum of money is divided in the ration of 4 : 3.

The larger part is \$7.20.

Find the smaller part.

Answer: [2]

8. The rate of exchange between Swiss francs (F) and British pounds (£) was $2.4F = £1$.

Calculate the number of pounds received in exchange for 60F.

Answer: [2]

9.

- (a) A car travels from City *A* to City *B* at a speed of 60 km/h.
If the distance between the two cities is 510 km, how many hours will it take the car to travel to City *B*?

Answer: [1]

- (b) The average speed of a car is 108 km/h.
How many metres can the car travel in 3 minutes?

Answer: [2]

- (c) On a journey, a cyclist travelled 1 kilometre in x minutes.
On a second journey, the cyclist travelled for y hours at the same average speed as on the first journey.

Find an expression, in terms of x and y , for the number of kilometres he travelled on the second journey.

Answer: [2]

10.

- (a) In 2000, the cost of a ream of coloured papers was \$24.
In 2005, its price had increased to \$60.

Calculate the percentage increase in the cost of a ream of coloured papers.

Answer: [2]

- (b) On 1st May 1998, William invested \$900 for 4 years at 6% per annum simple interest.

- (i) Calculate the simple interest on 1st May 1999.

Answer: [1]

- (ii) On 1 May 2002, William withdrew all his money.
Calculate the total amount of money that he withdrew.

Answer: [2]

- (c) Matthew bought an Ipad Air at Infinity Store.
Because he paid with a 7% discount card for members, he was able to save \$91 on the cost of the Ipad.

How much did he pay for the Ipad?

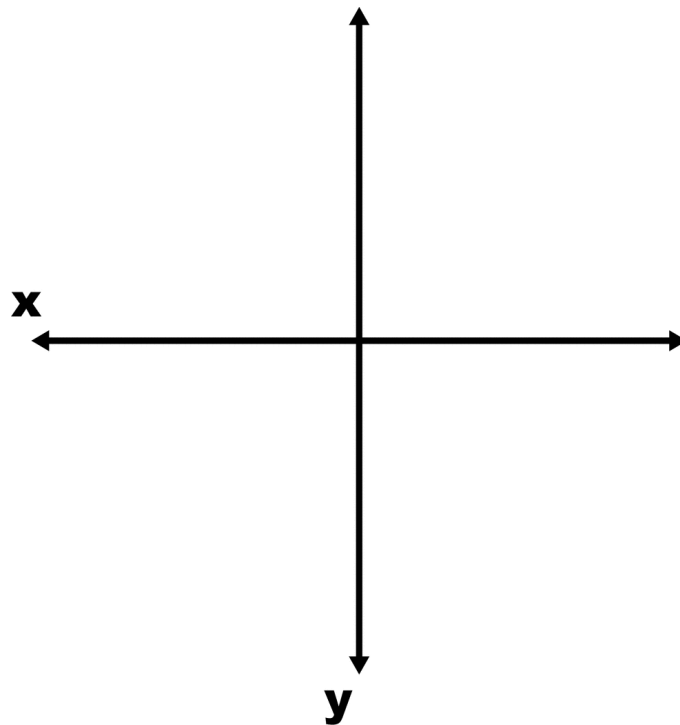
Answer: [2]

11.

- (a) A line passes through points $(-3, 0)$ and $(0, 8)$.
Find the gradient of this line.

Answer: [1]

- (b) The equation of a straight is $y = \frac{2}{3}x - 6$.
Sketch the graph of this line on the Cartesian plane provided below. [2]



- (c) The equation of a straight line is $20x - 2y = 6$.
Write this equation in the $y = mx + c$ form.
Find the gradient of this straight line.

Answer: [2]

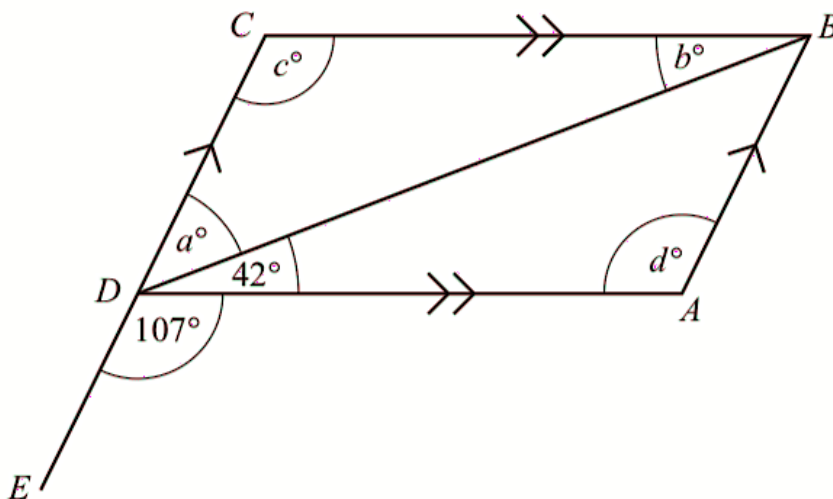
12.

A P N F H

From the list above, write down the letter which has

- (a) line symmetry only
- (b) line symmetry and rotational symmetry
- (c) rotational symmetry only. [2]

13. The diagram shows a parallelogram $ABCD$ and a straight line CDE . Find the values of a , b , c and d .



NOT TO SCALE

$a =$

$b =$

$c =$

$d =$ [3]