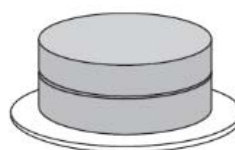


Nat 5 Revision G - Paper 1 (Based on Credit 2011)

1. Evaluate $2 \cdot 4 + 5 \cdot 46 \div 60$. 2
2. Factorise fully $2m^2 - 18$. 2
3. Given that $f(x) = 5 - x^2$, evaluate $f(-3)$. 2
4. Solve the equation 3

$$3x + 1 = \frac{x - 5}{2}$$

5. Jamie is going to bake cakes for a party.
He needs $\frac{2}{5}$ of a block of butter for 1 cake. 3



He has 7 blocks of butter.

How many cakes can Jamie bake?

6. A driving examiner looks at her diary for the next 30 days.
She writes down the number of driving tests booked for each day as shown below.

<i>Number of tests booked</i>	0	1	2	3	4	5	6
<i>Frequency</i>	1	1	3	2	9	10	4

- (a) Find the median for this data. 2
- (b) Find the probability that **more than** 4 tests are booked for one day. 1

7. (a) Brian, Molly and their four children visit Waterworld.
The total cost of their tickets is £56.

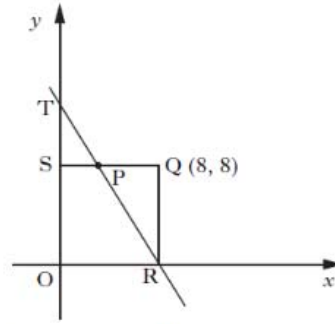


Let a pounds be the cost of an adult's ticket and c pounds the cost of a child's ticket. 1

Write down an equation in terms of a and c to illustrate this information.

- (b) Sarah and her three children visit Waterworld.
The total cost of their tickets is £36.
Write down another equation in terms of a and c to illustrate this information. 1
- (c) (i) Calculate the cost of a child's ticket. 2
- (ii) Calculate the cost of an adult's ticket. 1

8. A square, OSQR, is shown below.
Q is the point (8, 8).



The straight line TR cuts the y -axis at T (0, 12) and the x -axis at R.

- (a) Find the equation of the line TR. 3

The line TR also cuts SQ at P.

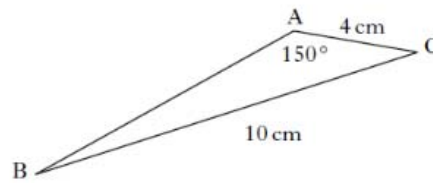
- (b) Find the coordinates of P. 4

9. (a) Simplify $2a \times a^{-4}$. 1

- (b) Solve for x , $\sqrt{x} + \sqrt{18} = 4\sqrt{2}$. 3

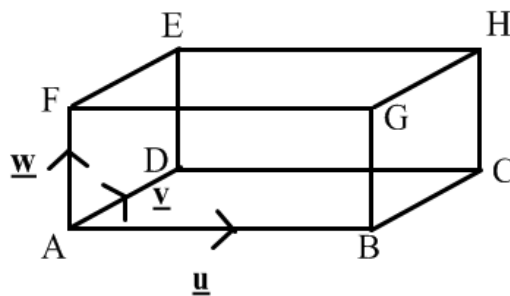
10. In triangle ABC

- AC = 4 centimetres
- BC = 10 centimetres
- angle BAC = 150°



- Given that $\sin 30^\circ = \frac{1}{2}$, show that $\sin B = \frac{1}{5}$. 4

11. The diagram below shows a cuboid ABCDEFGH.



$$\begin{aligned} \vec{AB} &= \underline{u} \\ \vec{AD} &= \underline{y} \\ \vec{AF} &= \underline{w} \end{aligned}$$

- a) Find an expression for BE in terms of \underline{u} , \underline{y} and \underline{w} . 1

- b) M is the midpoint of GH. N is the midpoint of AB.
Find an expression for the vector \vec{MN} . 1

12. The sums, S_2 , S_3 and S_4 of the first 2, 3 and 4 natural numbers are given

by: $S_2 = 1 + 2 = \frac{1}{2} (2 \times 3) = 3$

$S_3 = 1 + 2 + 3 = \frac{1}{2} (3 \times 4) = 6$

$S_4 = 1 + 2 + 3 + 4 = \frac{1}{2} (4 \times 5) = 10$

- (a) Find S_{10} , the sum of the first 10 natural numbers. 1

- (b) Write down the formula for the sum, S_n , of the first n natural numbers. 1