



# CHRISTMAS REVISION SHEET

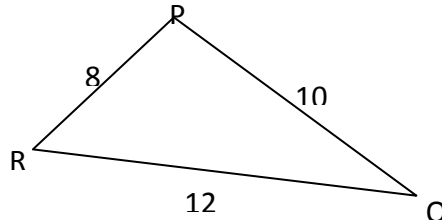
## NATIONAL 5 MATHS

### Non Calculator Questions (out of 20)

1. Work out the answer to  $5 \cdot 9 - 6 \cdot 3 \div 5$  2

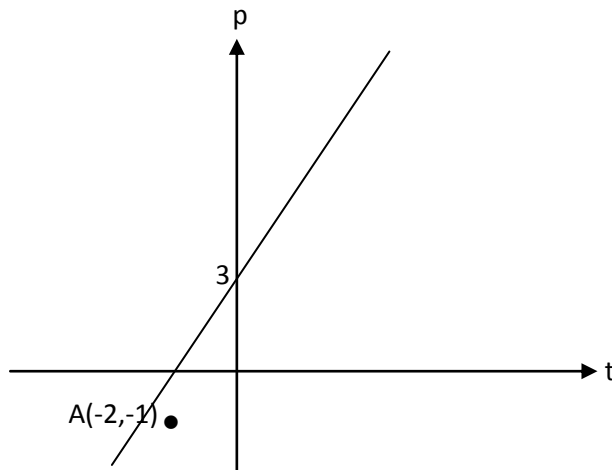
2. Evaluate  $2\frac{5}{8} \div 1\frac{3}{4}$  2

3. Triangle PQR has sides with lengths, in centimetres, as shown.



Show clearly that  $\cos \text{PQR} = 0.75$ . 4

4.



Find the equation of the straight line in terms of p and t. 3

5. Multiply out the brackets and simplify

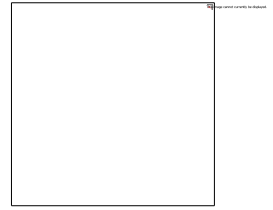
$$(x - 2)(x^2 + 6x - 5) + 2x^3 \quad 3$$

6. At the funfair coloured tokens are awarded as prizes in some of the games. These tokens can be saved up and exchanged for larger items.

3 green tokens and 4 red tokens have a total value of 26 points.  
5 green tokens and 2 red tokens have a total value of 20 points.

Dave has 10 green tokens and 10 red tokens.

Does he have enough points to exchange for a large soft toy with a points value of 75?



6

### Calculator Questions (out of 33)

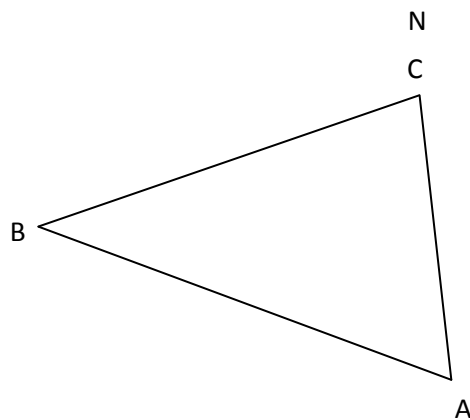
7. Six lemons are weighed. Their weights are:

110g, 122g, 118g, 115g, 120g, 117g

Calculate the **mean** and **standard deviation** of this data.

4

8. A rectangular plot of farmland, ABC, to be ploughed is shown below.



Find the area of the field if  $AB = 12.6$  metres,  $AC = 10$  metres and angle  $BAC = 72^\circ$

2

9. Connor has just bought a brand new car costing £17 500.  
During the first year the value of the car is predicted to fall by 14%.  
It then drops at a rate of 6.5% every successive year thereafter.  
How much is the car worth after 4 years? Give your answer correct to **2 s.f.**

5

10. Multiply out the brackets and simplify

$$8 - 3(4x - 5) + 6x$$

3

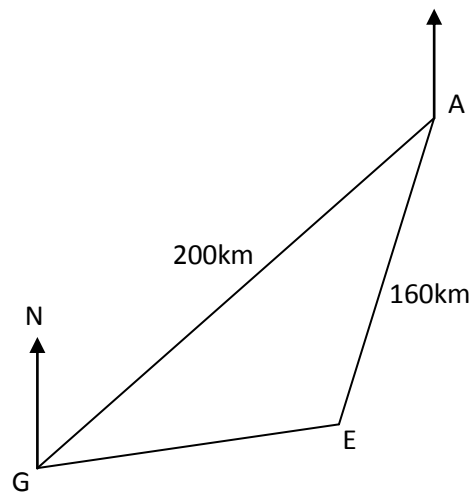
11. (a) Factorise fully  $8x^2 - 18$

2

(b) Factorise  $p^2 + 11p + 24$

2

12. The diagram below shows the positions of three airports A, E and G.



G is 200 kilometres from A whilst E is 160 kilometres from A.

From G the bearing of A is  $052^\circ$  From A the bearing of E is  $216^\circ$ .

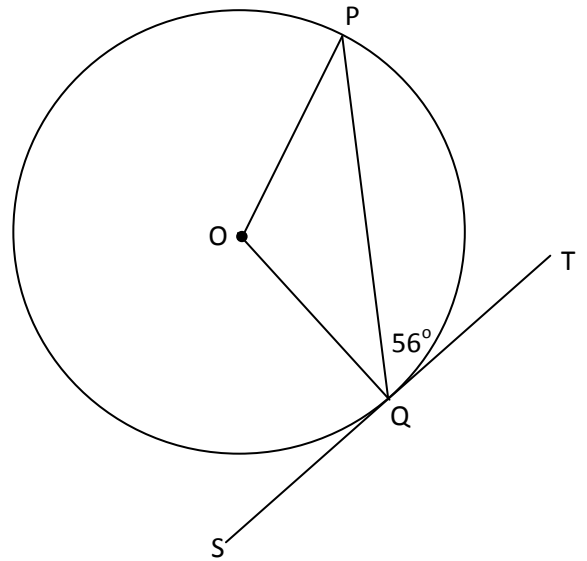
How far apart are airports G and E?

6

**13.** The diagram shows a circle with centre O. ST is a tangent to the circle with point of contact Q.  $\angle PQT = 56^\circ$ .

**(a)** Calculate the size of  $\angle POQ$ . **3**

**(b)** Hence calculate the length of the major arc PQ given that the radius of the circle is 14 cm. **3**



**14.** A box of cereal is on special offer, with 15% extra free.

The weight of the box is 506 grams.

What is the weight of a normal-sized box without the special offer?

**3**