

# MATHEMATICS

## Second Year November Assessment

### Non-Calculator

NAME

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TEACHER

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FORM

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**You must show all your working out.**

**Section 1 – Mastery**

1. a) Express 360 as a product of prime factors, giving your answer in index form.

Answer: (4 marks)

b) Given that  $144 = 2^4 \times 3^2$ , find the HCF of 360 and 144.

Answer: (2 marks)

2. Calculate a)  $10^5 - 1$

b)  $5^3 + 6^2$

(4 marks)

3. Add brackets to each of the following expressions to make them correct:

a)  $5 \times 7 + 2 - 5 = 40$

b)  $3 + 3^2 \div 5 - \sqrt{4} \times 5 = 20$

(3 marks)

4. Estimate the area of a right-angled triangle with base of length 11.68m and height of 5.12m.

Answer:  $\text{m}^2$  (3 marks)

5. A farmer has enough hay to feed 5 horses for 6 days. How long could it feed 3 horses for?

Answer: (2 marks)

6. Work out :

a)  $10.8 - 3.74$

Answer: (2 marks)

b)  $1436.61 \div 7$

Answer: (2 marks)

**Section 2 – Problem solving**

7. Glynn says that  $\sqrt{16 + 9}$  is the same as  $\sqrt{16} + \sqrt{9}$ . Show that Glynn is wrong.

(3 marks)

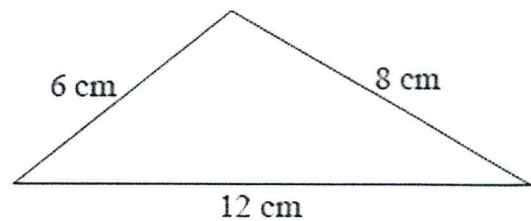
8. A shop sells red roses and white roses in the ratio 7 : 2. One day 30 more red roses than white roses are sold. How many roses are sold altogether?

Answer: (4 marks)

9. The area of a rectangle is  $0.876 \text{ cm}^2$ . The width of the rectangle is  $0.4 \text{ cm}$ . Find the length of the base of the rectangle.

Answer: cm (4 marks)

10. Show, using calculations, that the triangle below does not contain a right-angle.



(4 marks)