

## SAMPLE ASSESSMENT 1

October  $n^{\text{th}}$  20##

### Instructions:

1. Write your name, your student number, your programme and your lecturer's name in the spaces provided below.
2. Attempt all questions. All questions carry equal marks.
3. Circle the correct answer in each case.
4. Use the back of the paper for rough work. If required, you may obtain more rough work paper from the invigilator, but all rough work must be handed up at the end of the exam.
5. You may not leave the Examination Centre until the time allocated has elapsed.
6. Hand this paper to the invigilator at the end of the exam.

Name: \_\_\_\_\_

Student Number: \_\_\_\_\_

Programme: \_\_\_\_\_

Lecturer: \_\_\_\_\_

**Calculators may not be used in this exam**

**NB:** This paper must not be taken from the Examination Centre.

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1. Evaluate  $(3+5)^2 \times 2 \div 4 - 2$

- (a) 0                      (b) 4                      (c) 30                      (d) 24

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

- (a)  $2\frac{5}{12}$                       (b)  $1\frac{1}{12}$                       (c)  $-1\frac{7}{12}$                       (d)  $-1\frac{1}{4}$

3. Find the value of  $\frac{\frac{2}{3} - \frac{1}{4}}{\frac{4}{5} + \frac{1}{3}}$ .

- (a)  $\frac{25}{68}$                       (b)  $\frac{11}{16}$                       (c)  $\frac{91}{204}$                       (d)  $\frac{41}{48}$

4. Calculate  $2.6 \times 0.016 - 0.0248$  correct to 2 significant figures.

- (a) 0.017                      (b) 0.014                      (c) -0.0239                      (d) 2.598

5. Evaluate  $V = E - IR$  where  $E = 170.5$ ,  $I = 0.36$  and  $R = 450$ .

- (a) 8.5                      (b) 0.49                      (c) 76563                      (d) 9.22

6. Evaluate  $s = ut + \frac{1}{2}at^2$ , when  $u = 10.4$ ,  $t = 5$  and  $a = -3.8$ .

- (a) 21.3                      (b) 4.63                      (c) 4.5                      (d) -5.5

7. Divide €150 in the ratio 3:5:7.

- (a) 60, 100, 70                      (b) 15, 25, 35                      (c) 30, 50, 70                      (d) 15, 25, 110

8. How much oil must be mixed with 1 litre of petrol in order to produce a 40:1 petrol/oil mix?

- (a) 50 ml                      (b) 25 ml                      (c) 32 ml                      (d) 20 ml

9. If both sides of a rectangle are increased by 20%, what is the percentage increase in the area?

- (a) 20%                      (b) 40%                      (c) 50%                      (d) 44%

10. A part costs €194 ex VAT. What is the cost including VAT at 15%?
- (a) €223.10    (b) €29.10    (c) €236.10    (d) €225.10
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11. An employee earning €350 per week is to receive a weekly increase of €20 and a further increase of 10%. What is the new weekly rate of pay?
- (a) €380    (b) €405    (c) €407    (d) €397
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12. A loss of 20% is made on the sale of an item. If the item was sold for €160, what was it bought for?
- (a) €192    (b) €200    (c) €195    (d) €198
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13. A single person employee earns €30,500 in a particular year. Income tax is applied at the rate of 20% on the first €31,800 of earnings and 40% on the balance. If the employee has total tax credits of €3,750, what is the total tax due?
- (a) €10,395    (b) €10,650    (c) €3750    (d) €2350
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14. €25,000 is invested at 4% compounded annually. Find the amount after 2 years.
- (a) €27,060    (b) €27,040    (c) €27,000    (d) €26,500
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15. A square of side 20 mm is cut from a rectangle whose dimensions are 100 mm by 50 mm. What is the percentage reduction in area?
- (a) 8%    (b) 20%    (c) 0.4%    (d) 48%
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