

## Tutorial 1 - Sheet 1

1. Evaluate

- (a)  $16 \div (-2)$
- (b)  $(-3) \times (-2) \times (-4)$
- (c)  $9 + 6 \div 2$
- (d)  $-4 \times 2 + 10$
- (e)  $3 + 1 \times 3$

2. Evaluate

- (a)  $|-4+2|$
- (b)  $\frac{-|-4|}{2}$
- (c)  $\frac{-4}{|-2|}$
- (d)  $\frac{|-4|}{|-2|}$
- (e)  $|-4| \times |2|$

- 3. Find the highest common factor of 210, 252 and 1050.
- 4. Find the lowest common multiple of 21, 30, 50 and 69.
- 5. Express each of the following as a single fraction in its simplest form.

- (a)  $\frac{2}{3} + \frac{3}{5} + 2$
- (b)  $\frac{5}{7} - \frac{2}{3} + \frac{1}{10}$
- (c)  $\frac{2}{3} \times \left( \frac{1}{2} + \frac{1}{3} \right)$
- (d)  $\left( -\frac{1}{4} \right) \div \left( -\frac{2}{5} \right)$
- (e)  $1\frac{4}{5} \div 2\frac{1}{4}$

- 6. An alloy contains copper, zinc and nickel in the ratio 2:3:5. Calculate the mass of nickel in 20kg of alloy.
- 7. A resistor is described as having resistance of  $120 \pm 3\%$  ohms. Calculate the minimum and maximum values of the resistance.
- 8. In a quality check of a batch of components,  $1\frac{1}{2}\%$  are rejected. If a total of 39 components are rejected, calculate the number in the batch.