Practical Maths for Plumbing & Heating Students and Apprentices

Full 10 Unit Assessment Pack - Questions Only
Practical Maths for Plumbing & Heating Students and Apprentices

Complete all questions. Show all working.

Unit 1 – Basic Operations

1. Calculate the total radiator output: 1200 W + 1500 W + 1800 W.

2. A heating system has three outputs: 450 W, 800 W and 1,250 W. Calculate the total output.

3. A 100 m pipe coil is cut into 4 equal lengths. How long is each length?

4. Calculate: (15 + 5) × 3.

5. Calculate: 96 divided by 8.

Unit 2 – Fractions

1. Calculate: 1/2 + 1/4.

2. Calculate: 3/4 − 1/8.

3. Simplify 6/8.

4. A pipe run is 12 m long. 1/3 has been installed. How many metres are installed?

5. A job requires 3/4 of a 20 m pipe length. How many metres are required?

Unit 3 – Decimals

1. Calculate: 0.75 + 0.25.

2. Calculate: 5.6 − 2.35.

3. Calculate: 2.5 × 4.

4. Calculate: 6.6 divided by 2.

5. Round 4.567 to 2 decimal places.

Unit 4 – Percentages

1. Calculate 25% of 80.

2. Calculate 10% of 200 litres.

3. Increase 100 by 15%.

4. Decrease 50 by 20%.

5. A boiler output is 500 W. Add 10% allowance.

Unit 5 – Ratios

1. Simplify the ratio 10:20.

2. Simplify the ratio 8:12.

3. Divide 30 in the ratio 1:2.

4. Divide 40 in the ratio 3:1.

5. A job uses 2 parts copper pipe to 3 parts plastic pipe. If there are 50 parts total, how many are copper?

Unit 6 – Powers and Indices

1. Calculate 2^3.

2. Calculate 5^2.

3. Calculate 10^3.

4. Calculate 4^2.

5. Calculate 2^4.

Unit 7 – SI Units

1. Convert 1 kW to W.

2. Convert 2.5 kW to W.

3. Convert 5000 mL to L.

4. Convert 0.75 MPa to kPa.

5. Convert 2500 mm to m.

Unit 8 – Algebra

1. Solve: $x + 5 = 10$.

2. Solve: $2x = 14$.

3. Solve: $x - 3 = 7$.

4. Solve: $x/2 = 6$.

5. Solve: $2x + 4 = 10$.

Unit 9 – Transposition of Formulae

1. Rearrange $P = Q/t$ to make Q the subject.

2. Rearrange $V = IR$ to make R the subject.

3. Rearrange $P = VI$ to make I the subject.

4. Rearrange $d = vt$ to make v the subject.

5. Rearrange $P = I^2R$ to make R the subject.

Unit 10 – Trigonometry & Pythagoras

1. Use Pythagoras to find the hypotenuse when the shorter sides are 3 m and 4 m.

2. Use Pythagoras to find the hypotenuse when the shorter sides are 6 m and 8 m.

3. Use Pythagoras to find the missing side when the hypotenuse is 13 m and one side is 5 m.

4. Find $\sin 30°$.

5. Find $\cos 60°$.

