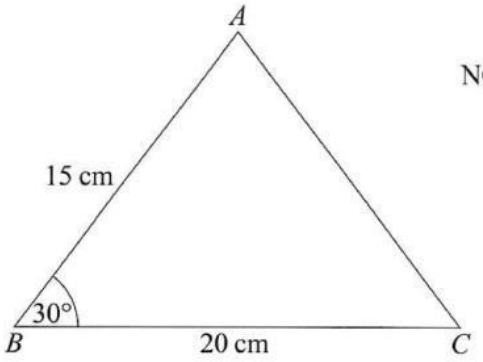
5. In $\Delta ABC$, $AB = 15\,\text{cm}$, $\angle B = 30°$ and $BC = 20\,\text{cm}$.




NOT TO SCALE

(a) Calculate the area of $\Delta ABC$. [2]

**Area Formula After Substituting**

**Area =**

$\Delta ABC$ is enlarged by scale factor 3 to form $\Delta PQR$.

(b) Calculate the area of $\Delta PQR$. [2]

**Length of $AB_1$ =**

**Length of $BC_1$ =**

**Area Formula After Substituting**

**Area =**

5. (a) Write as a single fraction in simplest form

$$\frac{5}{x+3} - \frac{2}{x-1}$$

[3]

**Fractions After applying L.C.D.**

$$\frac{\qquad\qquad}{(\quad)(\quad)} - \frac{\qquad\qquad}{(\quad)(\quad)}$$

**Simplified Fractions**

$$\frac{\qquad\qquad}{(\quad)(\quad)}$$

(b) Factorise and simplify

$$\frac{3y-12}{y^2-16}$$

[3]

**Fraction After Initial Factorization**

_____

( )( )

**Simplified Fraction**

_____

5. Given that $f(x)=\frac{5+x}{2}$ and $g(x)=\frac{6}{x}$, calculate

(a) the value of $g(1.5)$, [1]

(b) $x$ where $f(x)=-9$, [2]

(c) a simplified expression for $g(f(x))$, [2]

_____

(d) the inverse of $g$, $g^{-1}(x)$. [1]

_____

5. The cost of a circular table is directly proportional to the square of the radius. A circular table with radius of 40 cm cost \$50.

(a) Find the cost of the circular table with a radius of 60 cm. [4]

**Generic Proportional Formula =**

**The Value of The Constant Multiplier =** _____

**Proportional Formula with substitution**

**Cost =** _____

**Cost of Table with 60 cm radius =**

(b) If the cost of a circular table is \$200, calculate the radius of the table. [3]

**Proportional Formula with substitution**

**\$200 = ——**

**Radius of \$200 Table =**

5. Expand and solve the quadratic equation, correct to 2 decimal places.

$2x(x - 6) = 17$ [6]

**Expanded Equation**

**= 17**

**Quadratic Formula Equation after substituting a, b and c**

$$x = \frac{\pm\sqrt{\qquad\qquad}}{\qquad\qquad}$$

**x = or =**

5. Find all possible values of $x$ that solve each of the following equations:

(a) $x^2 = 4$ [2]

**x = or =**

(b) $x^2 + 4x = 0$ [3]

**Factorized Equation**

**=**

**x = or =**

(c) $x^2 + 4x = 5$ [4]

**Transposed Equation**

**=**

**x = or =**

5. The sales agents in a store earn $260 per week plus 8% commission on sales over $500.

In a certain week one agent sells goods valued at $1630.

(a) Calculate his gross pay for that week. [3]

**Commissions Received = $**

**Gross Pay = $**

After a busy week, another agent's gross pay that week was $436.

(b) Calculate the value of the goods she sold that week. [4]

**Commissions Received = $**

**Value of Goods Sold = $**