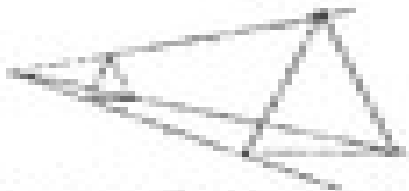


Part 1: 100 marks

1. (10 marks)

1. The two triangles are similar. Hence $\frac{AB}{AC} = \frac{DE}{CE}$.



2. In a right-angled triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides. Hence $AC^2 = AB^2 + BC^2$. And since $AC = 10$, $AB = 6$, we have $10^2 = 6^2 + BC^2$.

10000 = 36 + BC²

BC² = 9964

BC = 99.82

BC = 99.82 (approx)

3. The area of a triangle is given by $\frac{1}{2} \times \text{base} \times \text{height}$. In this case, the base is 10 and the height is 6. Hence the area is $\frac{1}{2} \times 10 \times 6 = 30$. The area of the square is $10 \times 10 = 100$. Hence the area of the triangle is $\frac{30}{100} = \frac{3}{10}$ of the area of the square.



Since the triangles are similar, we have $\frac{AC}{AB} = \frac{CD}{BC}$.

$\frac{6}{10} = \frac{CD}{10}$

$CD = 6$

Hence the area of the triangle is $\frac{1}{2} \times 10 \times 6 = 30$.

$\frac{30}{100} = \frac{3}{10}$

$\frac{30}{100} = \frac{3}{10}$

4. Since the triangles are similar, we have $\frac{AC}{AB} = \frac{CD}{BC}$. Hence $\frac{6}{10} = \frac{CD}{10}$. Hence $CD = 6$.



5. The area of a triangle is given by $\frac{1}{2} \times \text{base} \times \text{height}$.

$\frac{1}{2} \times 10 \times 6 = 30$

$\frac{30}{100} = \frac{3}{10}$

$\frac{30}{100} = \frac{3}{10}$



$\frac{1}{2} \times 10 \times 6 = 30$

$\frac{30}{100} = \frac{3}{10}$

$\frac{30}{100} = \frac{3}{10}$

Answer:
The area of the triangle is 30.
The area of the square is 100.
Hence the area of the triangle is $\frac{30}{100} = \frac{3}{10}$ of the area of the square.