Solutions to Past Paper Questions – Similar Triangles and other similar shapes

7) Width = $148 \times \frac{450}{210} = 317$ mm (to 3sf)

4) $x = ١٠ \times \frac{٢٤}{١٦} = ١٥$

11) Ratio of sides of 20 Euro note = 133 over 72 = 1.847...
Ratio of sides of 500 Euro note = 160 over 82 = 1.951...
Since these are not equal the notes are not similar.

11) (a) $DE = \frac{4}{14} \times 21 = 6\,cm$

(b) $BC = \frac{14}{4} \times 9 = 31.5\,cm$

10) (a) BC = $8 \times \frac{5}{4}$ = 10cm

(b) EF = $6 \times \frac{4}{5}$ = 4.8cm

5) (a) $\frac{BE}{20} = \frac{6}{30}$

$BE = 20 \times \frac{6}{30} = 4\text{cm}$

(b) $\frac{AD}{3} = \frac{30}{6}$

$AD = 3 \times \frac{30}{6} = 15\text{cm}$

$DE = 15 - 3 = 12\text{cm}$

10) (a) $\angle$BAE = $\angle$ECD (alternate angles in $\parallel$ lines)
$\angle$ABE = $\angle$EDC (alternate angles in $\parallel$ lines)
$\angle$AEB = $\angle$DEC (vertically opposite angles) or (third angles of triangles)
So triangles are similar (AAA)

(b) $\frac{AE}{5} = \frac{8}{6}$ so $AE = 6\frac{2}{3}$ Hence $AC = 11\frac{2}{3}$