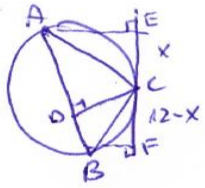
1.7.1
6



$\measuredangle BCF = \alpha$ נתון

$\measuredangle DAC = \measuredangle BCF = \alpha$

$\measuredangle F = 90^\circ = \measuredangle ADC$

$\Rightarrow (SS)\ \triangle ADC \sim \triangle BFC$

$\triangle ACE \sim \triangle BDC$ בדומה

$$\frac{DC}{BF} = \frac{AD}{CF} = \frac{AC}{BC} \quad ; \quad \frac{AE}{DC} = \frac{EC}{BD} = \frac{AC}{BC}$$

$$\frac{DC}{BF} = \frac{AE}{DC}$$

$$DC^2 = AE \cdot BF = 9 \cdot 4 \Rightarrow \boxed{DC = 6}$$

(ב)

$$BC = \sqrt{CF^2 + BF^2}$$
$$BC = \sqrt{x^2 + 16}$$

$$AC = \sqrt{AE^2 + EC^2}$$
$$= \sqrt{81 + (12-x)^2}$$
$$= \sqrt{225 - 24x + x^2}$$

$$\frac{AC}{BC} = \frac{9}{4}$$

$$\frac{\sqrt{225 - 24x + x^2}}{\sqrt{x^2+16}} = \frac{9}{6} \quad /()^2$$

$$\frac{225 - 24x + x^2}{x^2 + 16} = \frac{81}{36}$$

$$45x^2 + 864x - 6804 = 0 \longrightarrow x = 6$$

נחזור לסוף הדומים

$$\frac{DC}{BF} = \frac{AD}{CF} \rightarrow \frac{6}{4} = \frac{AD}{6} \rightarrow AD = 9$$

$$\frac{AE}{DC} = \frac{EC}{BD} \rightarrow \frac{9}{6} = \frac{6}{BD} \rightarrow BD = 4$$

$$S_{ABC} = \frac{DC \cdot (AD + BD)}{2} = \frac{6(9+4)}{2} = 39$$