



$$\frac{17 \times \frac{AF}{10} S}{\frac{AF}{10} S} = \frac{17}{1} S$$

$$\triangle FAN \sim \triangle BCM \Rightarrow \frac{AN}{BC} = \frac{FM}{MC} \Rightarrow FM = \frac{AN \cdot MC}{BC}$$

$$MC^2 = BC^2 + MB^2 \Rightarrow MC = \sqrt{10}$$

$$\triangle EDC \sim \triangle EMB \Rightarrow \frac{MB}{DC} = \frac{ME}{EC} \Rightarrow EC = 2ME$$

$$\begin{aligned} MC &= \sqrt{10} \\ 3ME &= \sqrt{10} \\ ME &= \frac{\sqrt{10}}{3} \end{aligned}$$

$$S = \frac{\sqrt{10} \times \frac{\sqrt{10}}{3}}{2} = \frac{10}{6}$$

$$BE = DC = x$$

$$AE = \sqrt{1^2 + 2^2}$$

$$\begin{aligned} \triangle AEC \sim \triangle AED &\Rightarrow \frac{AE}{ED} = \frac{EC}{AE} \Rightarrow AE^2 = ED \cdot EC \\ 1^2 + 2^2 &= 10(1+x) \\ x^2 - 10x + 21 &= 0 \\ (x-3)(x-7) &= 0 \\ x &= 3 \quad x = 7 \end{aligned}$$

$$EF^2 = DF \cdot FC$$

$$17 = 1 \times FC \Rightarrow FC = 17$$

$$BC^2 = CF \cdot CA$$

$$BC = \sqrt{17 \times 20} = 10\sqrt{2}$$



$$MC = \sqrt{17^2 + 1^2} = \sqrt{290}$$