4.

Figure 1
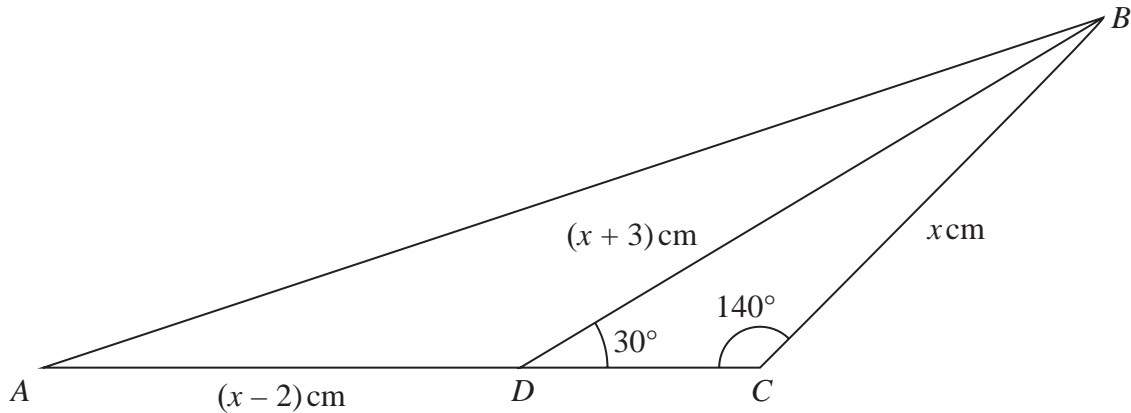
Figure 1 shows a sketch of triangle *ABD* and triangle *BCD*

Given that

- *ADC* is a straight line
- $BD = (x + 3)$ cm
- $BC = x$ cm
- angle $BDC = 30°$
- angle $BCD = 140°$

(a) show that $x = 10.5$ correct to 3 significant figures.

(3)

Given also that $AD = (x - 2)$ cm

(b) find the length of *AB*, giving your answer to 3 significant figures.

(2)