

1 (i) let $a = 2\text{ cm}$, $b = 3\text{ cm}$, $c = 5\text{ cm}$

$$\begin{aligned} a+b &= 2+3 \\ &= 5 \end{aligned}$$

$$\begin{aligned} b+c &= 3+5 \\ &= 8 \end{aligned}$$

$$\begin{aligned} c+a &= 5+2 \\ &= 7 \end{aligned}$$

$$\therefore a+b > c$$

$$b+c > a$$

$$c+a > b$$

\therefore Sum of any 2 sides is greater than the third side

\therefore Possible

11 (ii) let $a = 3\text{ cm}$, $b = 6\text{ cm}$, $c = 7\text{ cm}$

$$\begin{aligned} a+b &= 3+6 \\ &= 9 \end{aligned}$$

$$\begin{aligned} b+c &= 6+7 \\ &= 13 \end{aligned}$$

$$\begin{aligned} c+a &= 7+3 \\ &= 10 \end{aligned}$$

$$a+b > c$$

$$\therefore b+c > a$$

$$c+a > b$$

sum of any 2 sides is greater than the third side

\therefore Possible

111 (iii) let $a = 6\text{ cm}$, $b = 3\text{ cm}$, $c = 2\text{ cm}$

$$\begin{aligned} b+c &= 3+2 \\ &= 5 \end{aligned}$$

$$b+c \neq a$$

\therefore not possible