

✓ ✓ ✓

**3** The reflex angle  $\theta$  is such that  $\cos \theta = k$ , where  $0 < k < 1$ .

(i) Find an expression, in terms of  $k$ , for

(a)  $\sin \theta$ ,

[2]

(b)  $\tan \theta$ .

[1]

(ii) Explain why  $\sin 2\theta$  is negative for  $0 < k < 1$ .

[2]