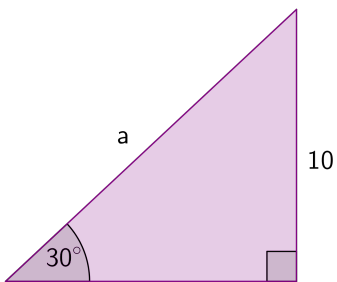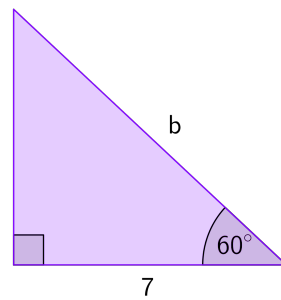# Sine, Cosine and Tangent (b)

1. Find the lengths of the unknown sides in the following right-angled triangles, leaving your answer in surd form ($\sqrt{a}$) when necessary.
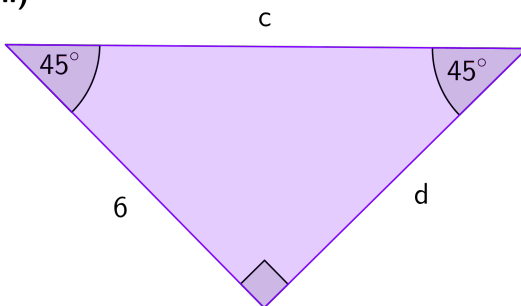
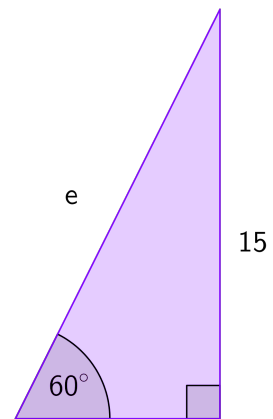**(i)**
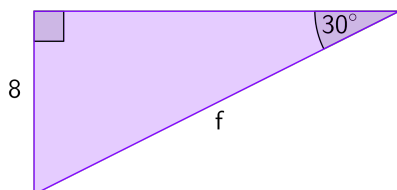
a
10
30°

(ii)

b
60°
7

(iii)

c
45°
45°
6
d

(iv)

e
15
60°

(v)

8
30°
f

(vi)

g
50°
4

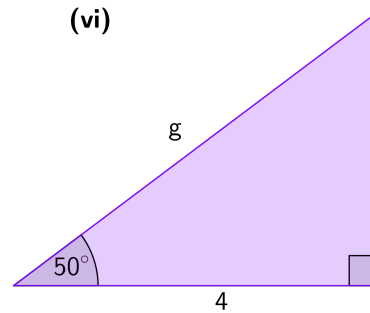2. Calculate the lengths of the unknown sides in the following triangles, leaving your answer in surd form ($\sqrt{a}$) when necessary.

(i)

$60°$

7

h

(ii)

$45°$

10

i

(iii)

j

7

$30°$

(iv)

k

$50°$

5

(v)

l

m

$70°$
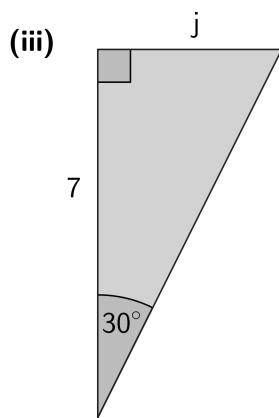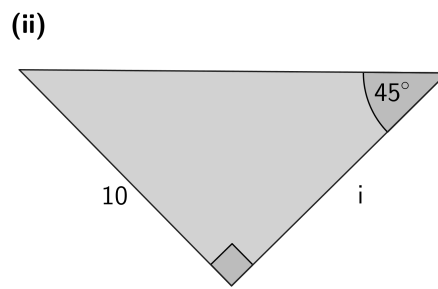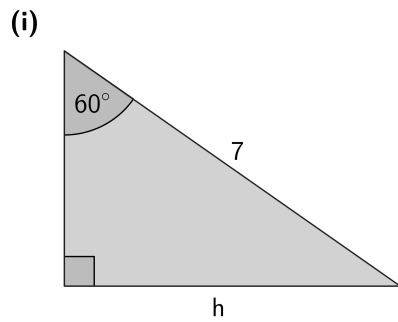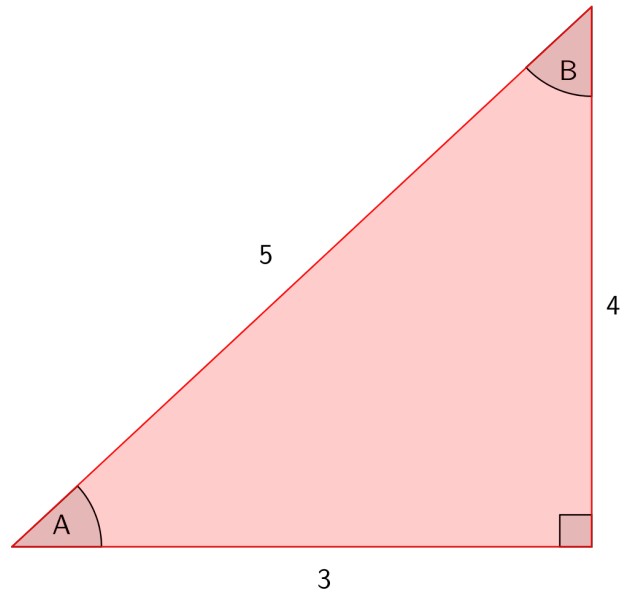
6

(vi)

α

$\sqrt{2}$

n

α
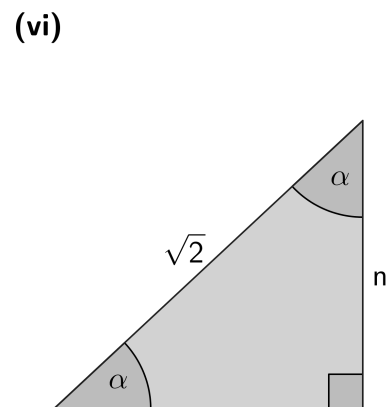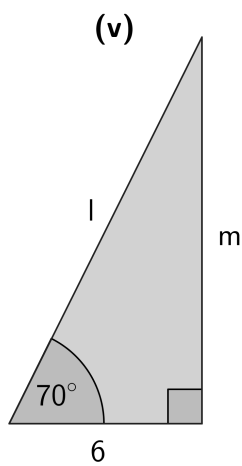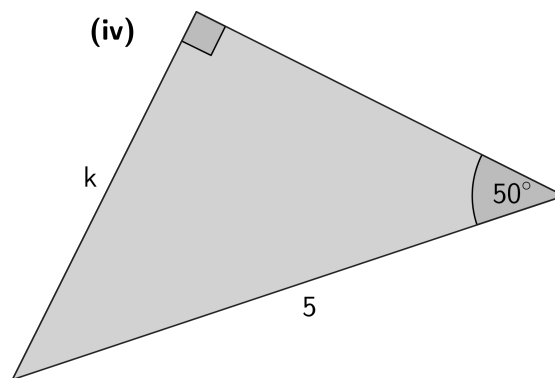
3. (i) In the following triangle, write down the sin and cos of the angles labelled A and B.

(ii) Using your answers from (i), calculate $\sin^2 A + \cos^2 A$ and $\sin^2 B + \cos^2 B$, what can you conclude?

4. (i) Given that $\tan A = 2$, by drawing a suitable triangle calculate $\cos A$ and $\sin A$.

(ii) Using a similar method to (i), calculate $\tan B$ and $\cos B$ given that $\sin B = 1/2$.

(iii) Given that $\cos C = 2$, explain the error in this question.