Using
SOHCAHTOA
The Sine and Cosine Ratios

Sine**O**pposite**H**ypotenuse**C**osine**A**djacent**H**ypotenuse**T**angent**O**pposite**A**djacent

Sine**O**pposite**H**ypotenuse**C**osine**A**djacent**H**ypotenuse**T**angent**O**pposite**A**djacent

Find all three trig functions for angles A and B

C

12

5

Opposite

Hypotenuse

A

13

B
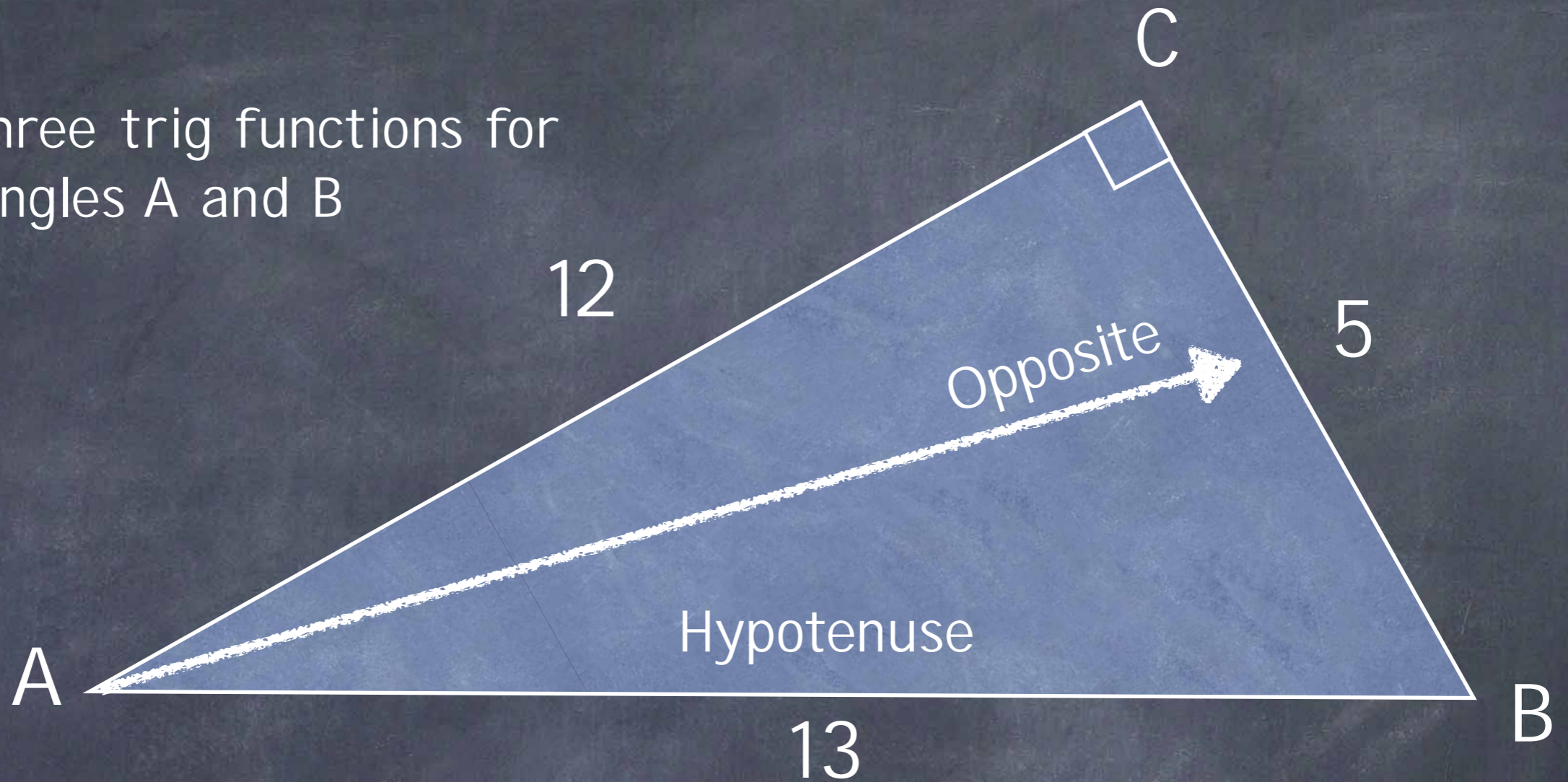
$$\sin A = \frac{opposite}{hypotenuse} = \frac{5}{13}$$

SineOppositeHypotenuseCosineAdjacentHypotenuseTangentOppositeAdjacent
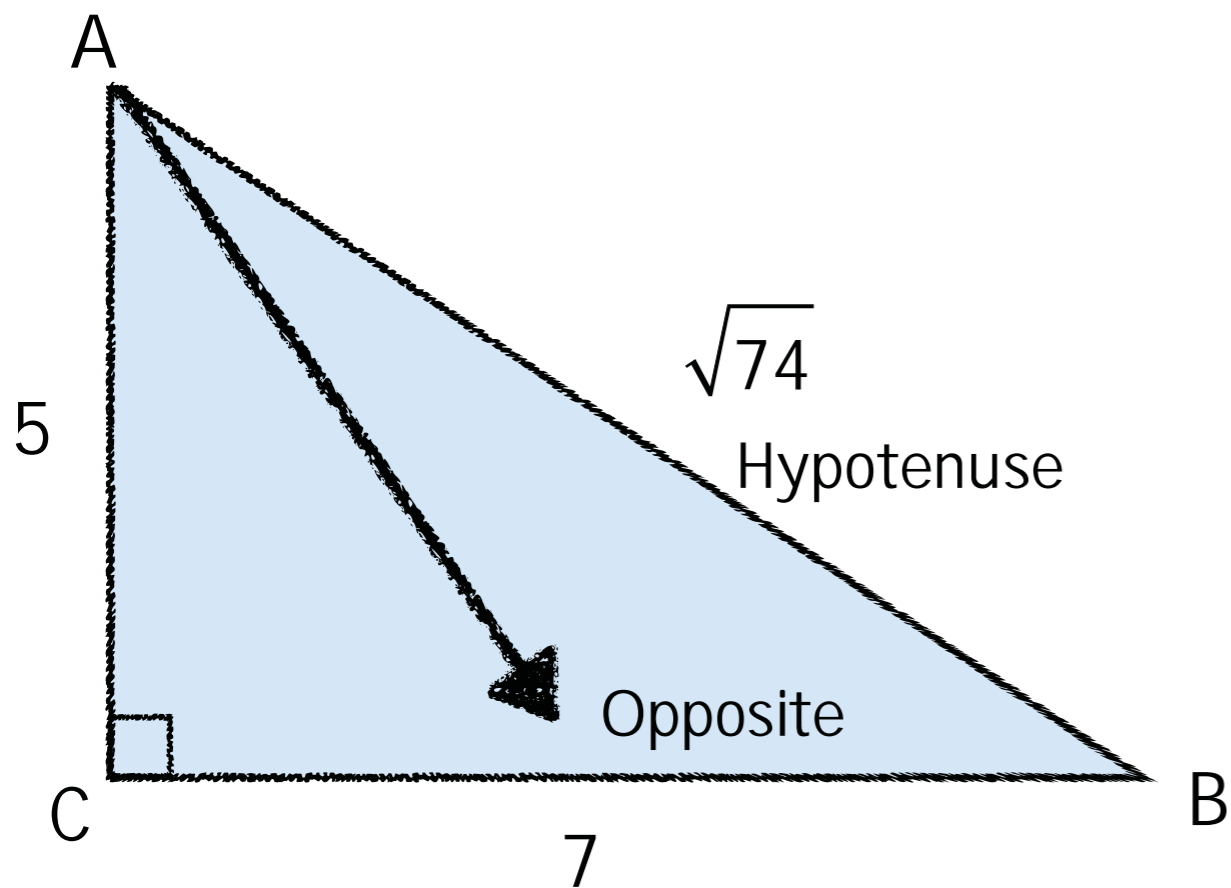
C

Find all three trig functions for
angles A and B

12

5

Opposite

Hypotenuse
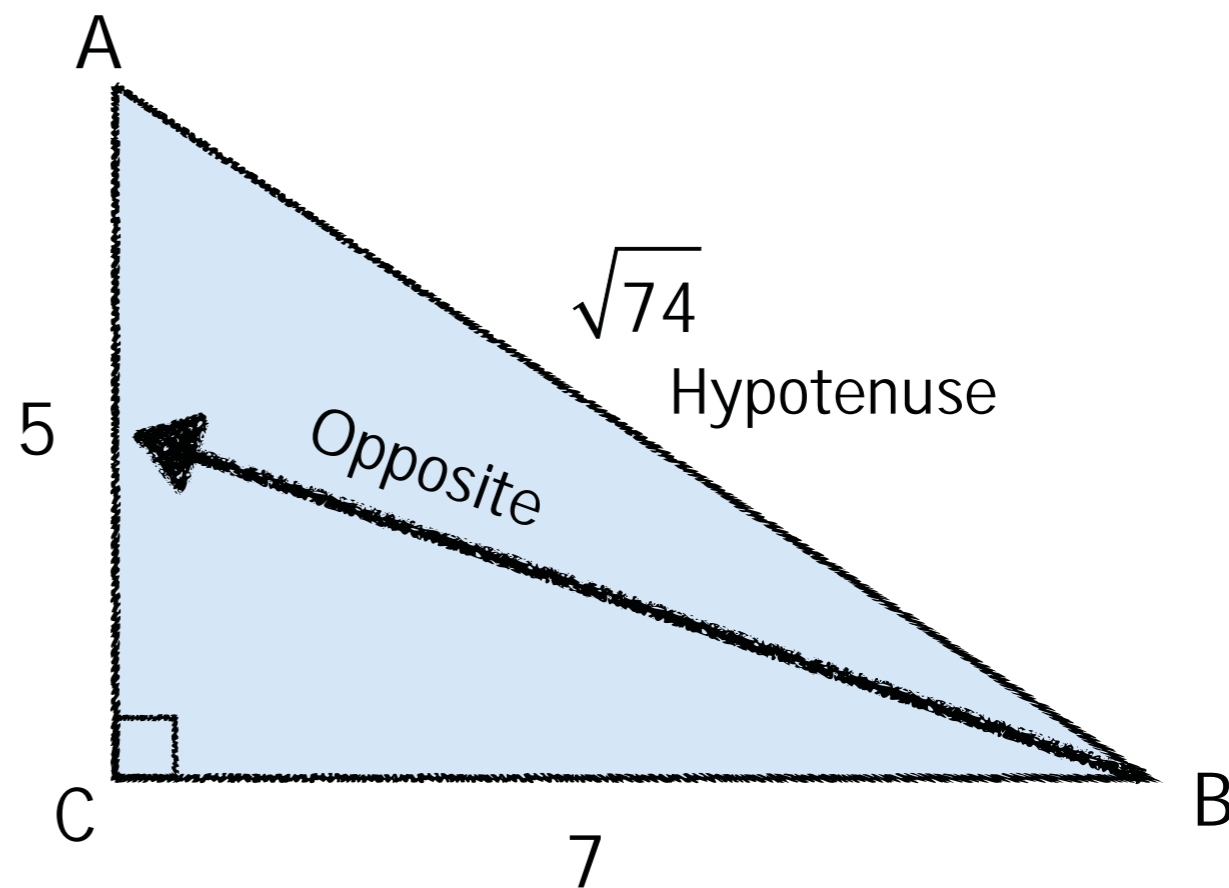
A

13

B
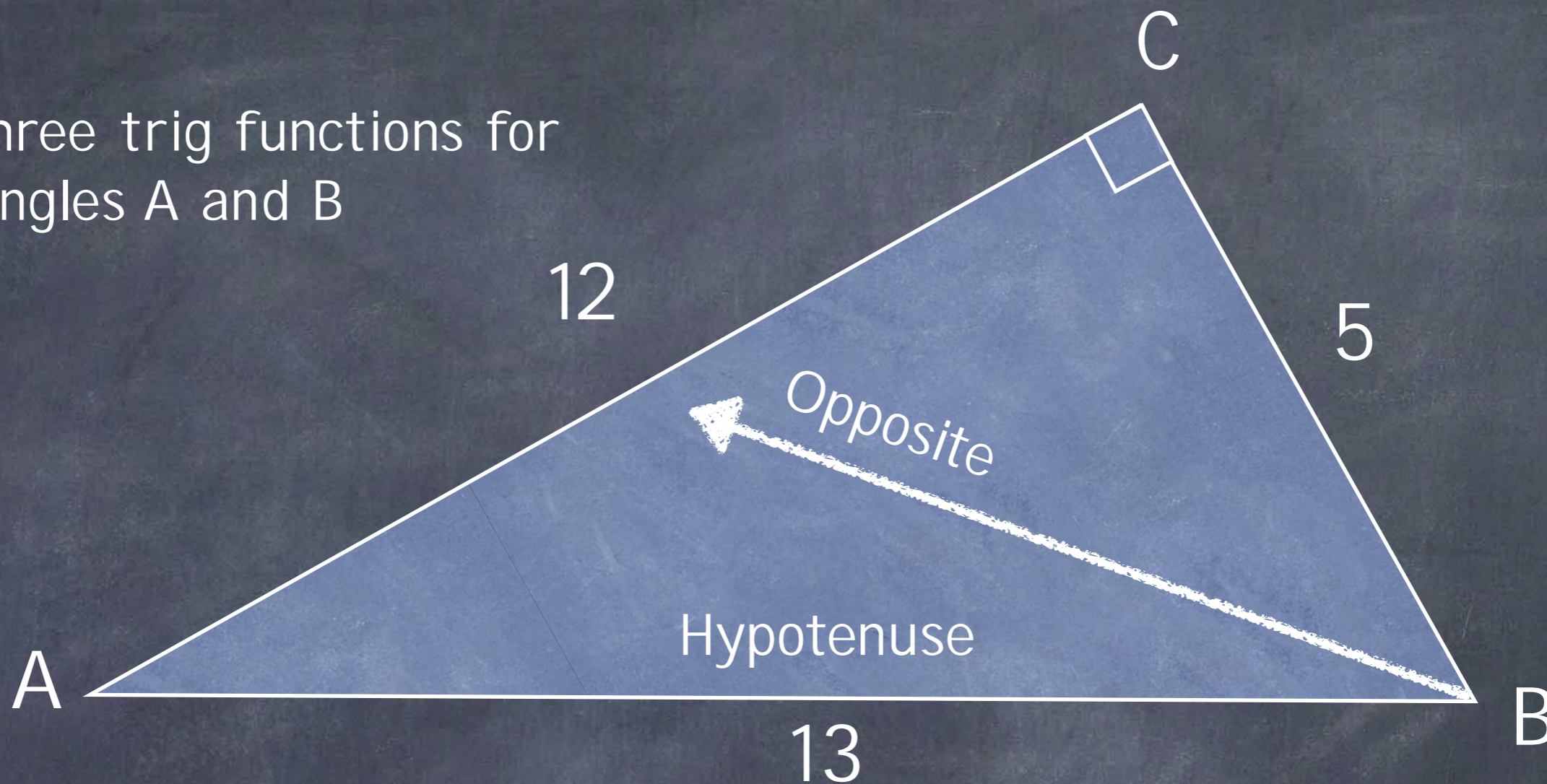
$$\sin A = \frac{opposite}{hypotenuse} = \frac{5}{13}$$

$$\sin B = \frac{12}{13}$$

SineOppositeHypotenuseCosineAdjacentHypotenuseTangentOppositeAdjacent

Find the tangent of angles A and B

A

5
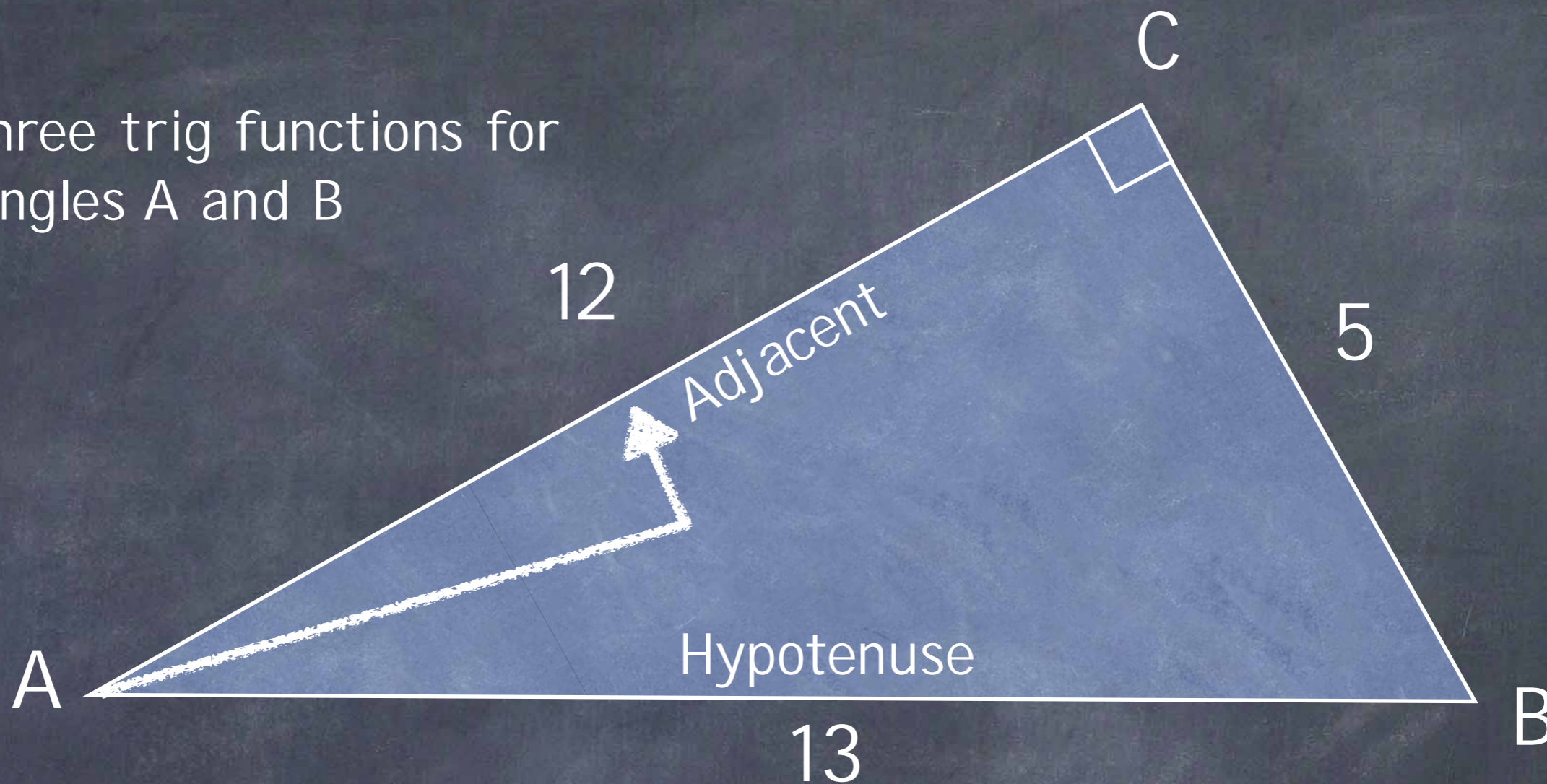
$\sqrt{74}$

Hypotenuse

Opposite

C

7

B

$$\sin A = \frac{opposite}{hypotenuse} = \frac{7}{\sqrt{74}}$$

A

5

$\sqrt{74}$

Hypotenuse

Opposite

C

7

B

$$\sin B = \frac{5}{\sqrt{74}}$$

SineOppositeHypotenuseCosineAdjacentHypotenuseTangentOppositeAdjacent

Find all three trig functions for angles A and B

C

12

Adjacent

5

Hypotenuse

A

13

B

$\cos A = \dfrac{adjacent}{hypotenuse} = \dfrac{12}{13}$

Sine**O**pposite**H**ypotenuse**C**osine**A**djacent**H**ypotenuse**T**angent**O**pposite**A**djacent
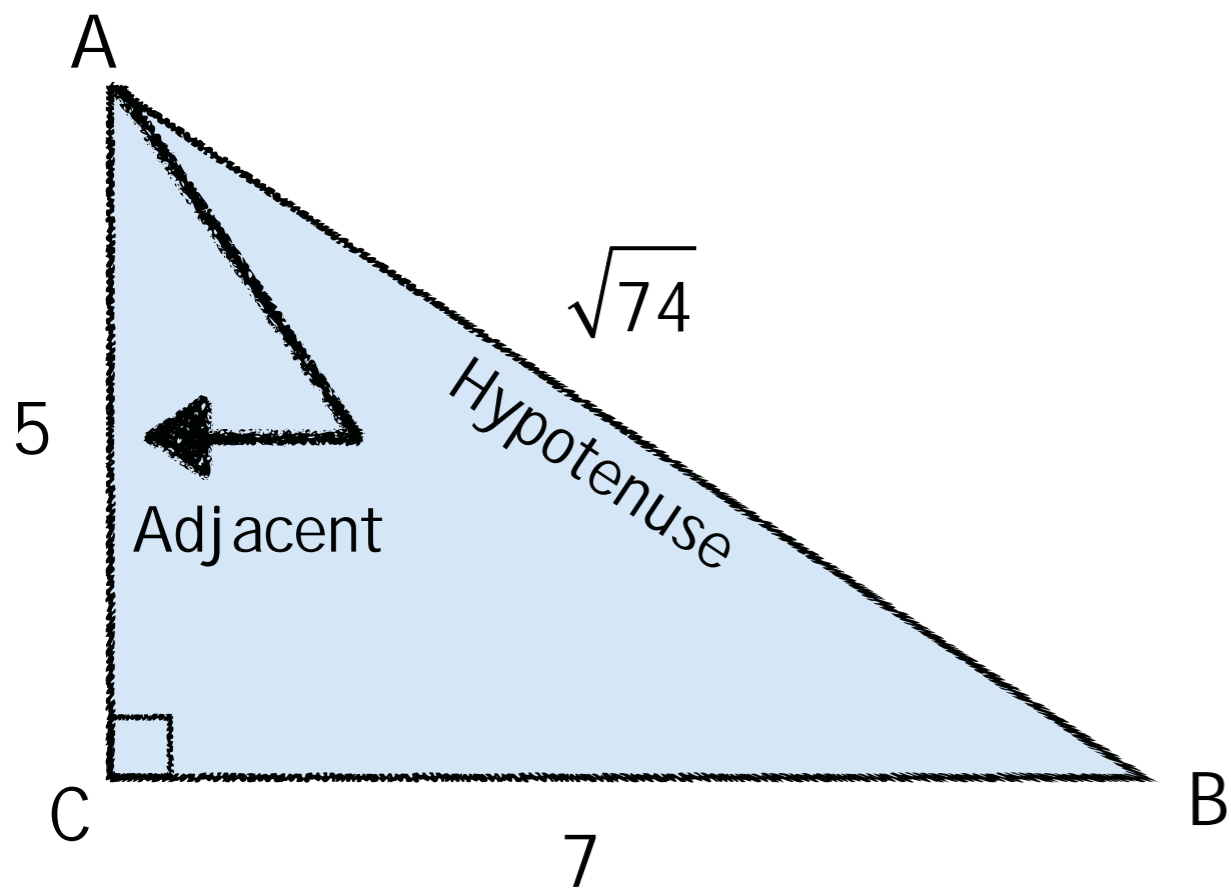
Find all three trig functions for angles A and B
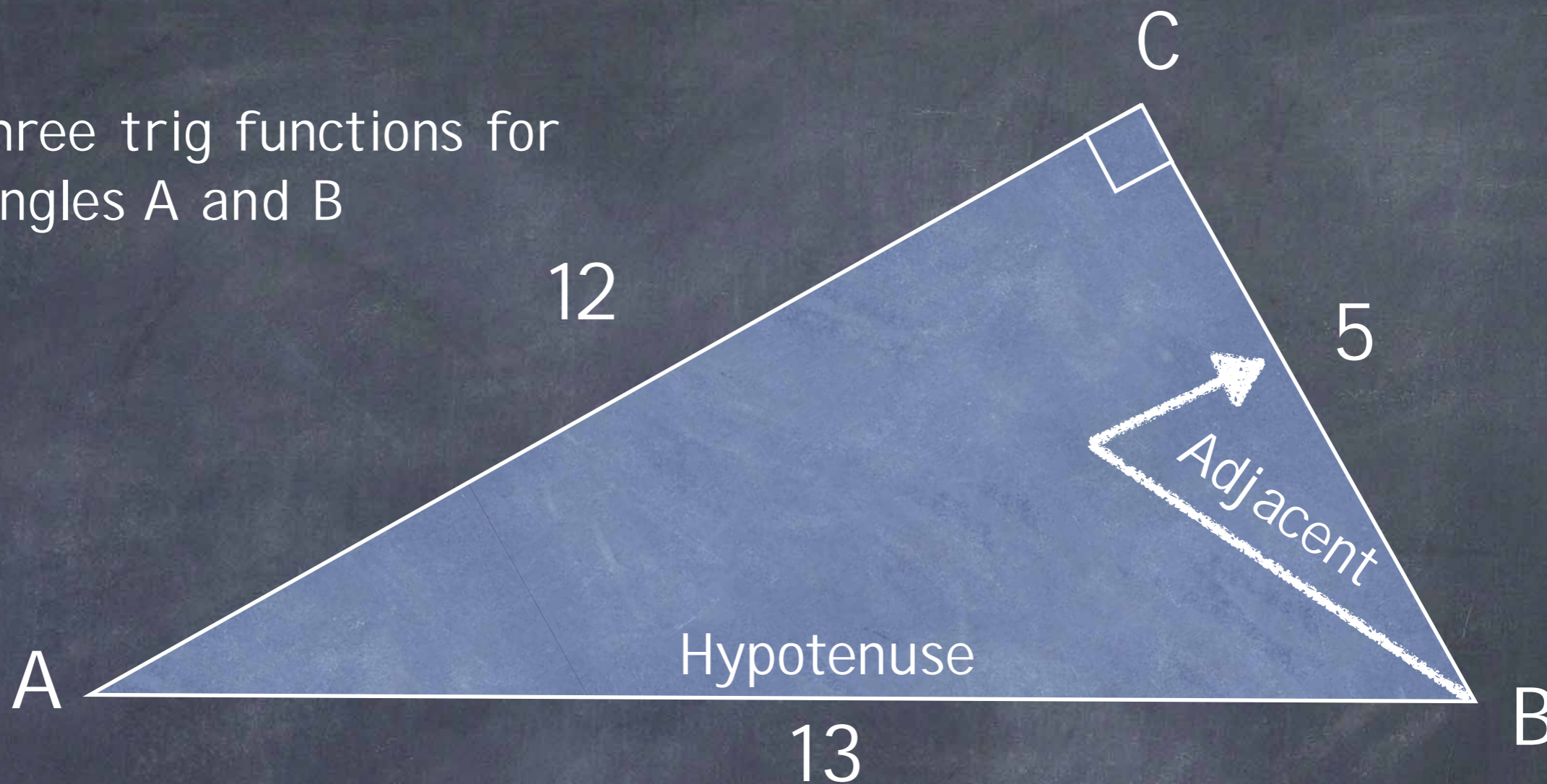
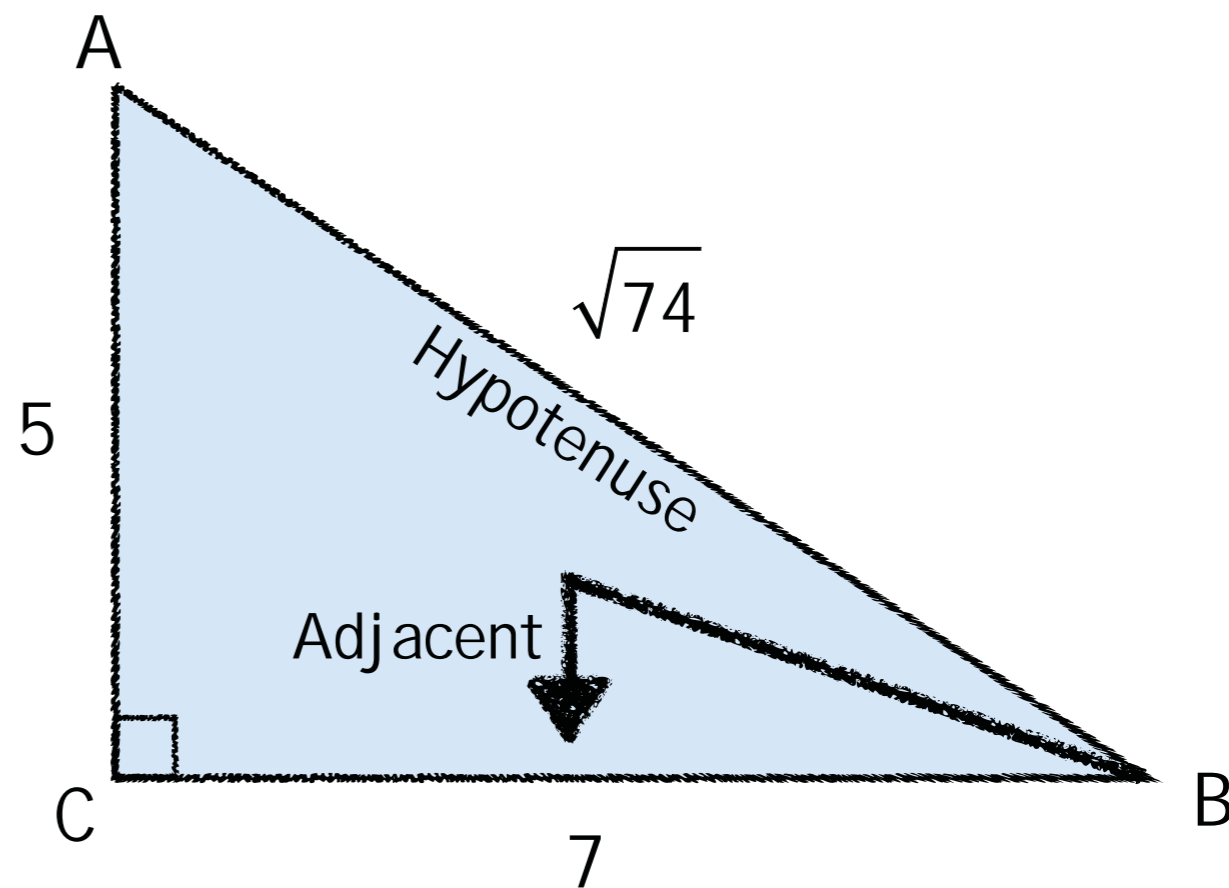
$$\cos A = \frac{adjacent}{hypotenuse} = \frac{12}{13}$$

$$\cos B = \frac{5}{13}$$

SineOppositeHypotenuseCosineAdjacentHypotenuseTangentOppositeAdjacent
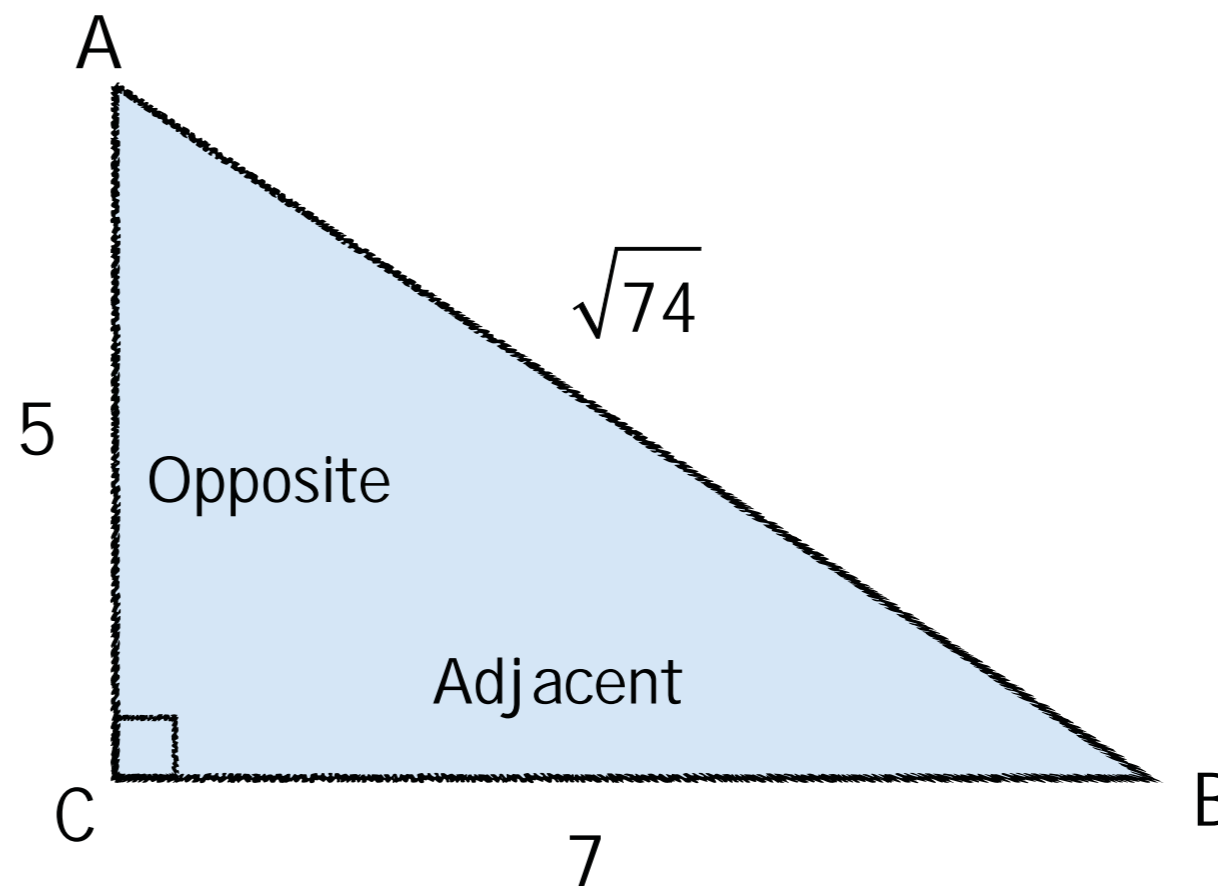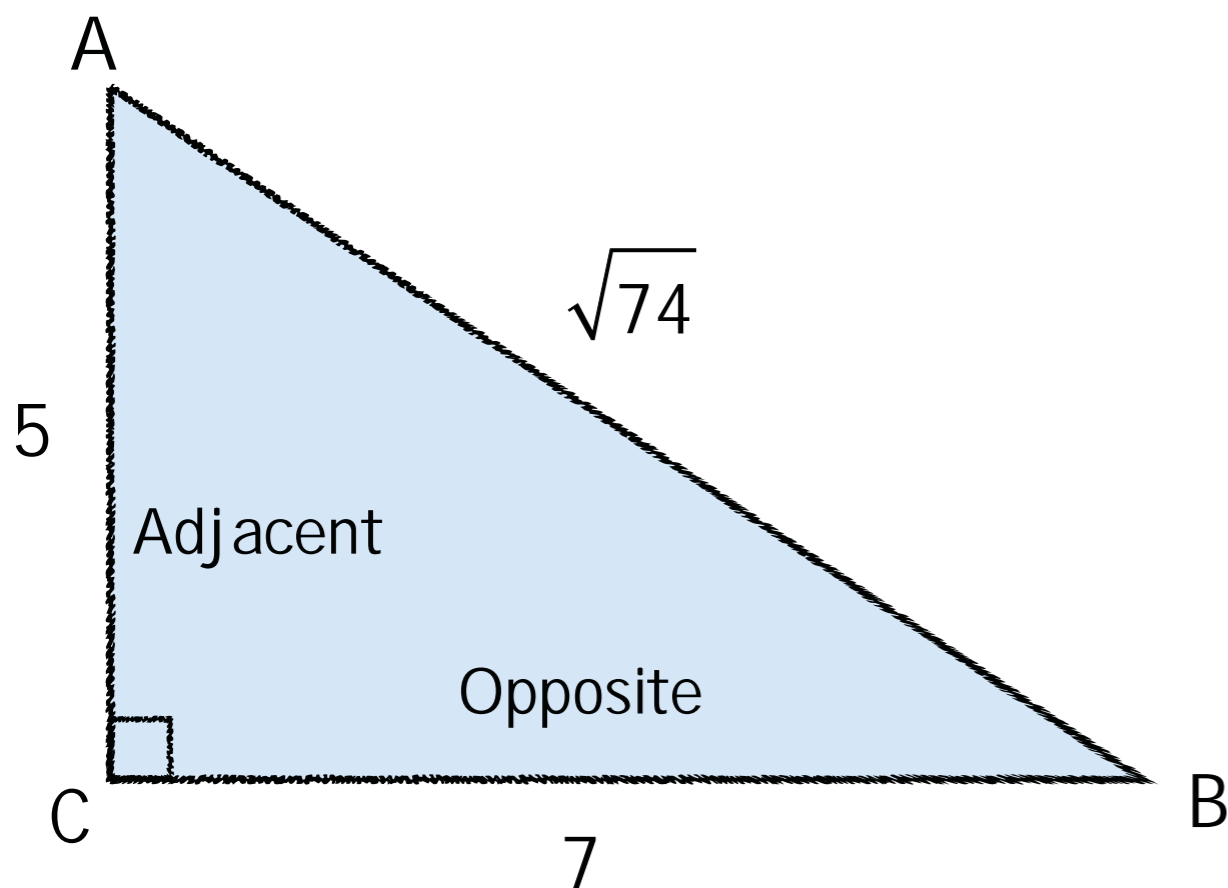
Find the tangent of angles A and B

$$\cos A = \frac{adjacent}{hypotenuse} = \frac{5}{\sqrt{74}}$$

$$\cos B = \frac{7}{\sqrt{74}}$$

SineOppositeHypotenuseCosineAdjacentHypotenuseTangentOppositeAdjacent

Find the tangent of angles A and B

$$\cos A = \frac{adjacent}{hypotenuse} = \frac{5}{\sqrt{74}}$$

$$\cos B = \frac{7}{\sqrt{74}}$$

$$\sin A = \frac{opposite}{hypotenuse} = \frac{7}{\sqrt{74}}$$
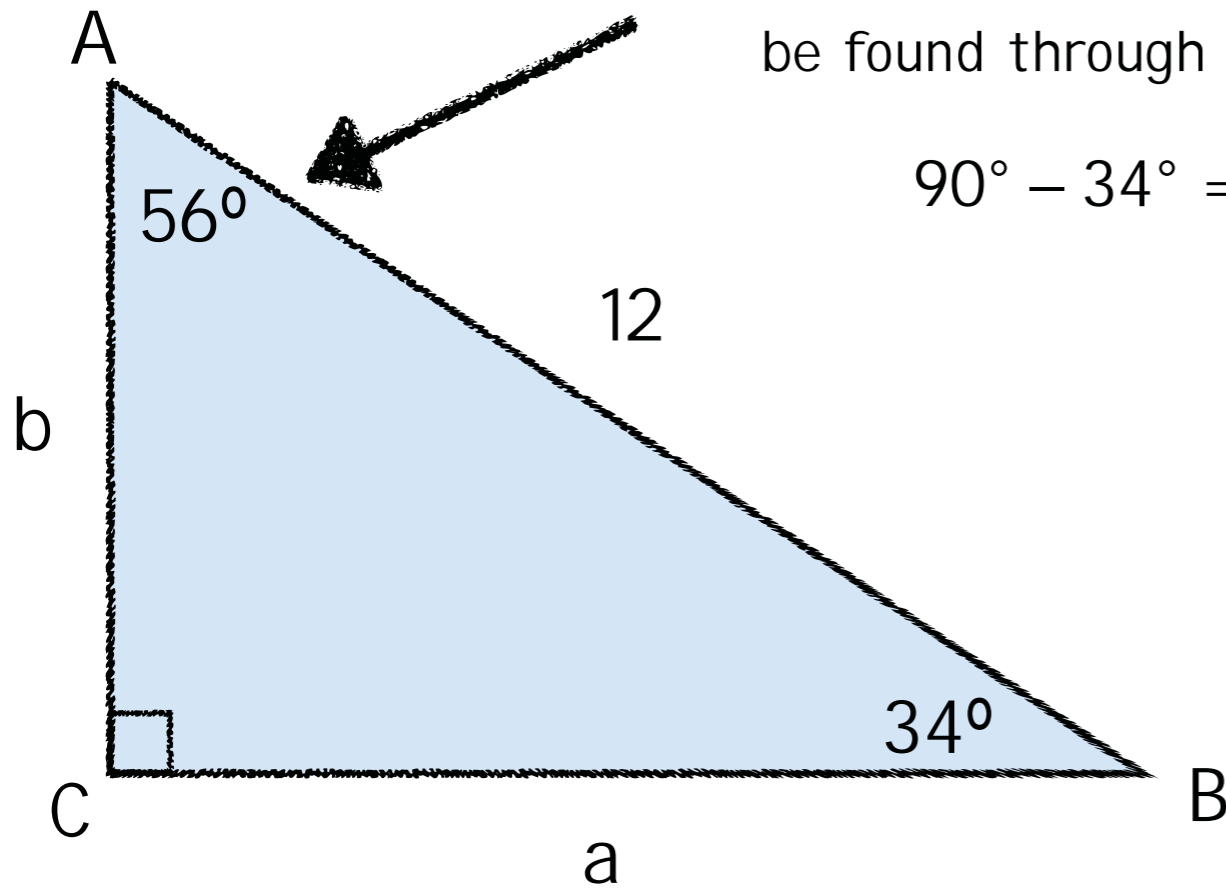
$$\sin B = \frac{5}{\sqrt{74}}$$

Notice

SineOppositeHypotenuseCosineAdjacentHypotenuseTangentOppositeAdjacent

Find the missing lengths

A

56⁰

12

b

34⁰

B

C

a

Let's also note that this angle can be found through subtraction

$$90° - 34° = 56°$$

Note the use of

2ND ➔ **ENTER**

to enter cosine.

This allows you to use fewer keystrokes. Try it out yourself to see how it helps

$$\sin 34° = \frac{b}{12}$$

$$\cos 34° = \frac{a}{12}$$
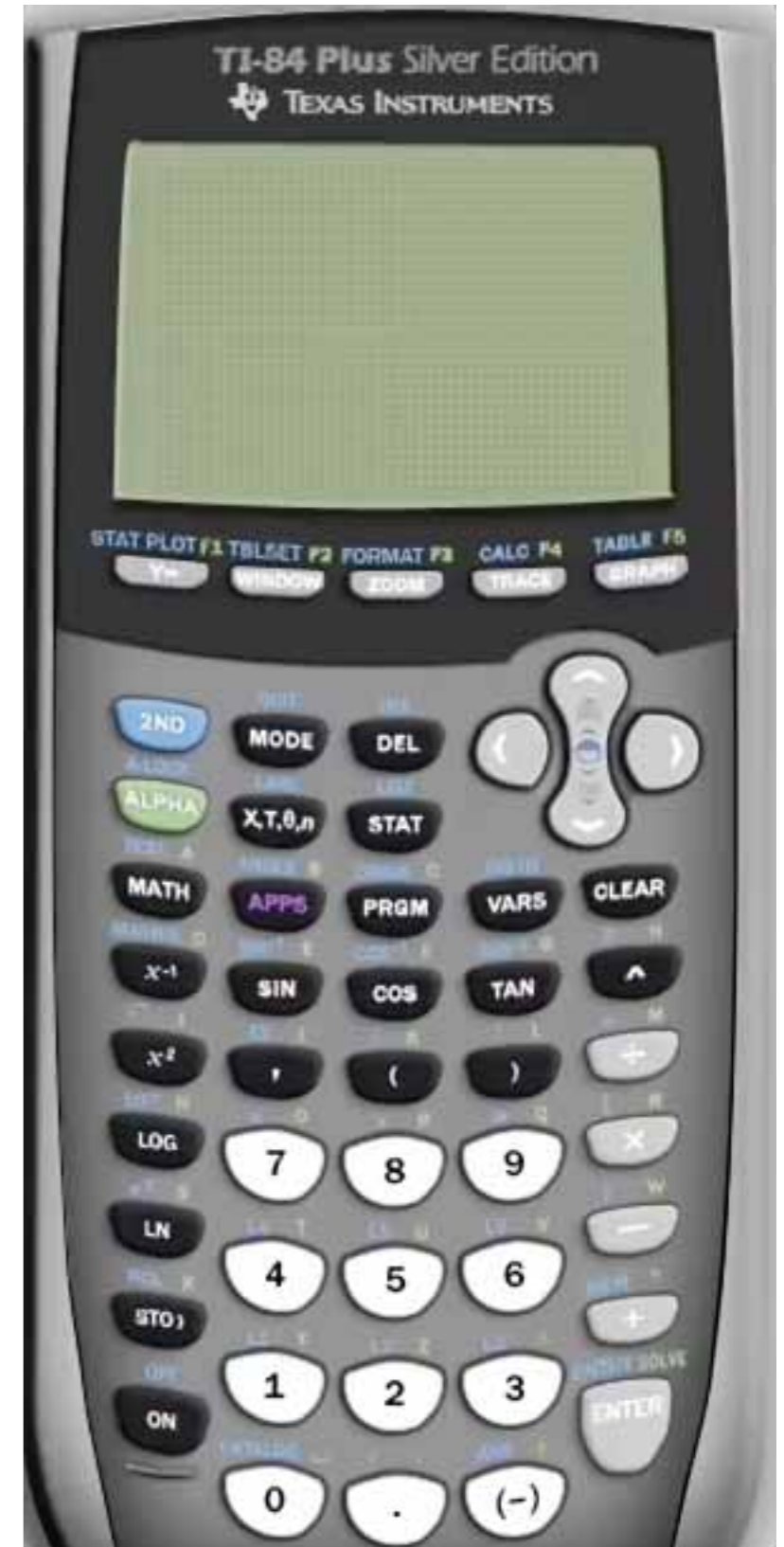
$$12 \sin 34° = b$$

$$12 \cos 34° = a$$

$$b \approx 6.710$$

$$a \approx 9.948$$

TI-84 Plus Silver Edition
TEXAS INSTRUMENTS

SineOppositeHypotenuseCosineAdjacentHypotenuseTangentOppositeAdjacent

Find the missing lengths

A

56⁰

12

b

34⁰

B

C

a

Let's also note that this angle can be found through subtraction

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2ND → ENTER

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$$\sin 34° = \frac{b}{12}$$

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TI-84 Plus Silver Edition
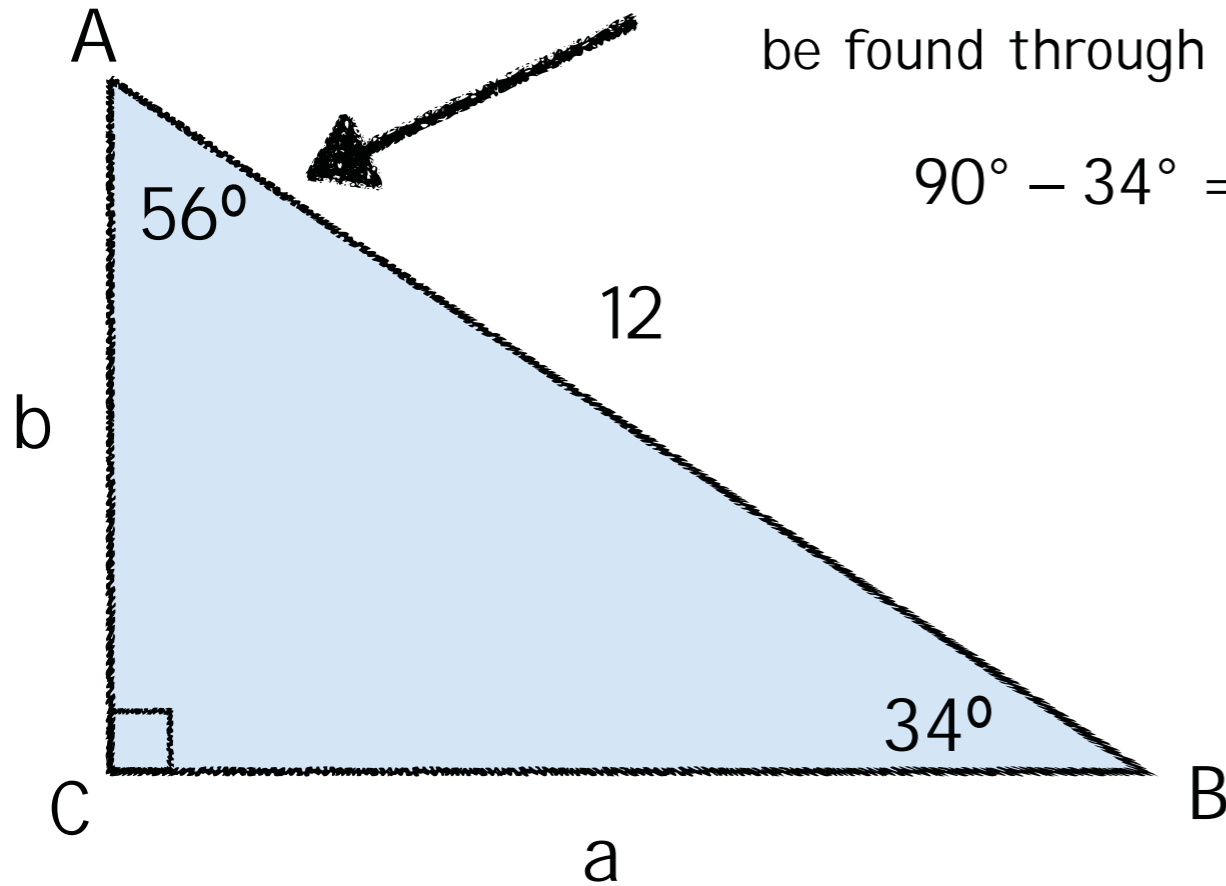TEXAS INSTRUMENTS

12sin(34)→B
        6.710314842
12cos(34)→A
        9.948450871