

Name \_\_\_\_\_

Date \_\_\_\_\_

# Acute Triangle Trigonometry: your summary

**1** Fill in every blank from memory. No notes.

**2** Check it against the Unit Summary in a different colour.

**3** Tick ✓ or X on each card. Every X is a topic to review.

vertexmath.ca  
Worksheet, answers &  
this cheat sheet



## Which law?

Write the tool for each case.

AAS · ASA · SSA

SAS

SSS

### 1 Sine law: a side

✓ X

**1**  $\angle P = 58^\circ$ ,  $\angle Q = 74^\circ$ ,  $p = 17$ . Find  $q$ .

**2**  $\angle A = 44^\circ$ ,  $\angle B = 81^\circ$ ,  $c = 19$ . What do you find first, and why?

### 6 Area and chained triangles

✓ X

**9** Two sides of 16 m and 21 m meet at  $47^\circ$ . Find the area.

### 2 Sine law: an angle

✓ X

**3**  $a = 16$ ,  $b = 13$ ,  $\angle A = 67^\circ$ . Find  $\angle B$ .

### 3 Cosine law

✓ X

**4** Write the cosine law for a side and for an angle.

**5**  $b = 14$ ,  $c = 17$ ,  $\angle A = 38^\circ$ . Find  $a$ .

**6** Sides 10, 13 and 15. Find the largest angle.

### 4 Using both laws

✓ X

**7**  $b = 10$ ,  $c = 13$ ,  $\angle A = 56^\circ$ . Name the case and the first law, then find  $a$ .

### 5 Bearings

✓ X

**8** A ship sails 20 km on a bearing of  $050^\circ$ , then 15 km on  $170^\circ$ . Find the angle at the turn and the distance back to the start.

## My traps Your three most likely mistakes, and how you will catch each one.

**1** \_\_\_\_\_ **2** \_\_\_\_\_ **3** \_\_\_\_\_

**Answers** · Answers to the numbered prompts. Cover this strip until you are done.

**1**  $q = 17 \sin 74^\circ / \sin 58^\circ \approx 19.3$   
**2**  $\angle C = 55^\circ$ , so  $c$  has its opposite angle  
**3**  $\angle B \approx 48.4^\circ$   
**4**  $c^2 = a^2 + b^2 - 2ab \cos C$ ;  $\cos C = (a^2 + b^2 - c^2) / (2ab)$   
**5**  $a \approx 10.5$   
**6** Opposite 15:  $\cos C = 44/260$ ,  $C \approx 80.3^\circ$   
**7** SAS, cosine law:  $a \approx 11.1$   
**8**  $60^\circ$ ;  $\sqrt{325} \approx 18.0$  km  
**9**  $a \approx 122.9$  m<sup>2</sup>