

LAW OF SINES

5A. $A = 72^\circ 12'$ $b = 22$ $a = 21$

CASE 1

$$\frac{\sin 72^\circ 12'}{21} = \frac{\sin B}{22}$$

$$A = 72^\circ 12' \quad B = 85^\circ 55' \quad C = 21^\circ 53'$$

$$a = 21 \quad b = 22 \quad c =$$

$$\frac{22 \sin 72^\circ 12'}{21} = \sin B$$

$$85^\circ 55' = B$$

CASE 2

$$A = 72^\circ 12' \quad B = 94^\circ 05' \quad C = 13^\circ 43'$$

Check the Supplement $94^\circ 05'$ $a = 21$ $b = 22$

CASE 1 $\frac{\sin 72^\circ 12'}{21} = \frac{\sin 21^\circ 53'}{c}$

CASE 2 $\frac{\sin 72^\circ 12'}{21} = \frac{\sin 13^\circ 43'}{c}$

$$c = 8.22$$

$$c = 5.23$$

5B. $A = 58^\circ$ $b = 14$ $a = 14$

CASE 1

$$\frac{\sin 58}{14} = \frac{\sin B}{14}$$

$$A = 58 \quad B = 58 \quad C = 64^\circ$$

$$a = 14 \quad b = 14 \quad c = 14.8$$

$$58^\circ = B$$

CASE 2

$$A = 58 \quad B = 122$$

NOT POSSIBLE TO MAKE ANOTHER TRIANGLE.

CASE 1 $\frac{\sin 58}{14} = \frac{\sin 64}{c}$

$$c = 14.8$$

5C. $B = 33^\circ$ $b = 2$ $a = 3.5$

CASE 1 $A = 72.4$ $B = 33$ $C = 74.6$

$$a = 3.5 \quad b = 2$$

$$\frac{\sin 33}{2} = \frac{\sin A}{3.5}$$

$$72.4 = A$$

CASE 2 $A = 107.6$ $B = 33$ $C = 39.4$

$$a = 3.5 \quad b = 2 \quad c =$$

CASE 1 $\frac{\sin 33}{2} = \frac{\sin 74.6}{c}$

$$c = 3.54$$

CASE 2 $\frac{\sin 33}{2} = \frac{\sin 39.4}{c}$

$$c = 2.33$$

5D. $B = 68$ $b = 3$ $a = 5$

$$\frac{\sin 68}{3} = \frac{\sin A}{5}$$

$$\sin A = \frac{5 \sin 68}{3}$$

NO SOLUTION!

2 solutions

1 solution

2 solutions

NO SOLUTION