

**A2.A.73: Law of Sines 2: Solve for an unknown side or angle, using the Law of Sines or the Law of Cosines**

1 If  $a = 4$ ,  $b = 6$ , and  $\sin A = \frac{3}{5}$  in  $\triangle ABC$ , then  $\sin B$  equals

1)  $\frac{3}{20}$

3)  $\frac{8}{10}$

2)  $\frac{6}{10}$

4)  $\frac{9}{10}$

2 In  $\triangle ABC$ ,  $\sin A = 0.6$ ,  $a = 10$ , and  $b = 7$ . Find  $\sin B$ .

3 In  $\triangle ABC$ ,  $a = 6$ ,  $b = 9$ , and  $\sin A = \frac{2}{3}$ . Find  $\sin B$ .

4 In  $\triangle ABC$ ,  $b = 12$ ,  $c = 8$ , and  $\sin B = \frac{1}{2}$ . Find the value of  $\sin C$ .

5 In  $\triangle ABC$ ,  $\sin A = 0.25$ ,  $a = 5$ , and  $b = 10$ . Find the value of  $\sin B$ .

6 In  $\triangle ABC$ ,  $a = 10$ ,  $b = 8$ , and  $\sin B = \frac{3}{4}$ . Find  $\sin A$ .

7 In  $\triangle ABC$ ,  $a = 5$ ,  $b = 7$ , and  $\sin A = \frac{3}{7}$ . What is  $\sin B$ ?

8 In  $\triangle ABC$ ,  $a = 5$ ,  $\sin A = \frac{1}{5}$ , and  $b = 4$ . Find  $\sin B$ .

- 9 In  $\triangle ABC$ ,  $b = 6$ ,  $c = 3$ , and  $\sin B = 0.4$ . Find the value of  $\sin C$ .
- 10 In  $\triangle ABC$ ,  $a = 15$ ,  $c = 10$ , and  $\sin A = 0.45$ . Find  $\sin C$ .
- 11 In  $\triangle ABC$ ,  $a = 5$ ,  $b = 6$ , and  $\sin B = \frac{3}{5}$ . Find the number of degrees in acute angle  $A$ .
- 12 In triangle  $ABC$ , if  $m\angle A = 30$ ,  $a = 6$ , and  $b = 8$ , then  $\sin B$  is
- |                  |                   |
|------------------|-------------------|
| 1) $\frac{2}{3}$ | 3) $\frac{6}{10}$ |
| 2) $\frac{3}{4}$ | 4) $\frac{8}{10}$ |
- 13 In  $\triangle ABC$ ,  $m\angle A = 30$ ,  $b = 14$ , and  $a = 10$ . Find  $\sin B$ .
- 14 In  $\triangle ABC$ ,  $m\angle A = 30$ ,  $a = 8$ , and  $b = 12$ . Find  $\sin B$ .
- 15 In  $\triangle ABC$ ,  $a = 6$ ,  $b = 7$ , and  $m\angle B = 30$ . Find  $\sin A$ .
- 16 In  $\triangle ABC$ , side  $a = 3$ , side  $c = 3\sqrt{2}$ , and  $m\angle A = 45$ . Find  $m\angle C$ .
- 17 In  $\triangle ABC$ ,  $m\angle A = 30$ ,  $a = 12$ , and  $b = 10$ . Which type of triangle is  $\triangle ABC$ ?
- |              |           |
|--------------|-----------|
| 1) acute     | 3) obtuse |
| 2) isosceles | 4) right  |

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### Answer Section

1 ANS: 4 PTS: 2 REF: 069627siii

2 ANS:  
0.42

PTS: 2 REF: 060922b

3 ANS:  
1

PTS: 2 REF: 018608siii

4 ANS:  
 $\frac{1}{3}$

PTS: 2 REF: 068609siii

5 ANS:  
0.5

PTS: 2 REF: 018702siii

6 ANS:  
 $\frac{15}{16}$

PTS: 2 REF: 089314siii

7 ANS:  
 $\frac{3}{5}$

PTS: 2 REF: 068913siii

8 ANS:  
 $\frac{4}{25}$

PTS: 2 REF: 089013siii

9 ANS:  
0.2

PTS: 2 REF: 019802siii

10 ANS:  
0.3

PTS: 2 REF: 089804siii

11 ANS:  
30

PTS: 2

REF: 068818siii

12 ANS: 1

PTS: 2

REF: 068726siii

13 ANS:  
0.7

PTS: 2

REF: 019015siii

14 ANS:  
 $\frac{3}{4}$

PTS: 2

REF: 069013siii

15 ANS:  
 $\frac{3}{7}$

PTS: 2

REF: 089614siii

16 ANS:  
90

PTS: 2

REF: 010411siii

17 ANS: 3

PTS: 2

REF: 060223siii