A2.A.73: Law of Sines 1: Solve for an unknown side or angle, using the Law of Sines or the Law of Cosines

1 In triangle ABC, $\sin A = 0.8$, $\sin B = 0.3$, and $a = 24$. Find the length of side b.

2 In ΔRST, $\sin R = 0.6$, $\sin S = 0.4$, and side $s = 16$. Find the length of side r.

3 In ΔABC, $\sin A = \frac{1}{3}$, $\sin B = \frac{1}{5}$, and $b = 6$. Find side a.

4 In triangle ABC, $\sin A = \frac{4}{5}$, $\sin B = \frac{3}{4}$, and $a = 16$. Find b.

5 In triangle ABC, $\sin A = 0.3$, $\sin B = 0.4$, and $a = 6$. Find b.

6 In triangle ABC, $\sin A = 0.3$, $\sin B = 0.4$, and $a = 12$. Find b.

7 In ΔABC, $\sin A = \frac{1}{2}$, $\sin C = \frac{1}{3}$, and $a = 12$. Find the length of side c.

8 In ΔABC, $\sin A = \frac{4}{5}$, $\sin C = \frac{2}{3}$, and $a = 18$. Find c.

9 In ΔABC, $a = 10$, $\sin A = 0.30$, and $\sin C = 0.24$. Find c.

10 In ΔABC, $\sin A = \frac{2}{3}$, $\sin B = \frac{4}{5}$, and side $a = 20$. Find side b.

11 In ΔABC, $a = 12$, $\sin A = 0.45$, and $\sin B = 0.15$. Find b.

12 In ΔABC, $a = 2$, $\sin A = \frac{2}{3}$, and $\sin B = \frac{5}{6}$. Find the length of side b.

13 In ΔABC, $\sin A = 0.3$, $\sin B = 0.8$, and $b = 12$. Find the length of side a.

14 In ΔABC, $\sin A = \frac{1}{4}$, $\sin B = \frac{1}{8}$, and $b = 20$. What is the length of a?

15 In ΔABC, $a = 24$, $\sin A = \frac{3}{4}$, and $\sin B = \frac{1}{2}$. Find b.

16 In ΔABC, side $a = 18$, $\sin A = \frac{3}{4}$, and $\sin B = \frac{2}{3}$. Find the length of side b.

17 In ΔABC, $\sin A : \sin B : \sin C = 4 : 5 : 6$. Find the value of c when $a = 10$.

18 In ΔABC, $m\angle A = 45$, $m\angle B = 30$, and side $a = 10$. What is the length of side b?

1) $5\sqrt{2}$
2) $5\sqrt{3}$
3) $10\sqrt{2}$
4) $10\sqrt{3}$

19 In ΔABC, $\sin A = \frac{1}{2}$, $b = 20$, and $m\angle B = 45$. What is the length of side a?

1) $\frac{10\sqrt{3}}{3}$
2) 10
3) $10\sqrt{2}$
4) $20\sqrt{2}$

20 In ΔABC, $\sin A = \frac{1}{3}$, $m\angle B = 30$, and $a = 12$. What is the length of b?

21 In ΔRST, $\sin T = \frac{1}{5}$, $m\angle R = 30$, and $r = 15$. What is the length of t?

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Answer Section

1 ANS:
9

REF: 068019siii
2 ANS:
24

REF: 068115siii
3 ANS:
10

REF: 018414siii
4 ANS:
15

REF: 068408siii
5 ANS:
8

REF: 088602siii
6 ANS:
16

REF: 088701siii
7 ANS:
8

REF: 018911siii
8 ANS:
15

REF: 089403siii
9 ANS:
8

REF: 089504siii
10 ANS:
24

REF: 019703siii
11 ANS:
4

REF: 069702siii

12 ANS:
2.5

REF: 010010siii
13 ANS:
4.5

REF: 060001siii
14 ANS:
40

REF: 060103siii
15 ANS:
16

REF: 080102siii
16 ANS:
16

REF: 060304siii
17 ANS:
15

REF: 069807siii
18 ANS: 1 REF: 089730siii
19 ANS: 3 REF: 069920siii
20 ANS:
18

REF: 089911siii
21 ANS:
6

REF: 080211siii