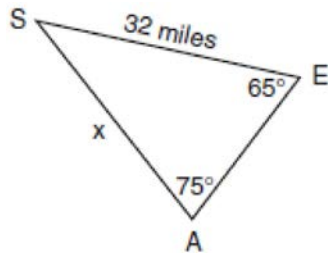


G.SRT.D.11: Law of Sines 1

- 1 The accompanying diagram shows the approximate linear distances traveled by a sailboat during a race. The sailboat started at point S , traveled to points E and A , respectively, and ended at point S .

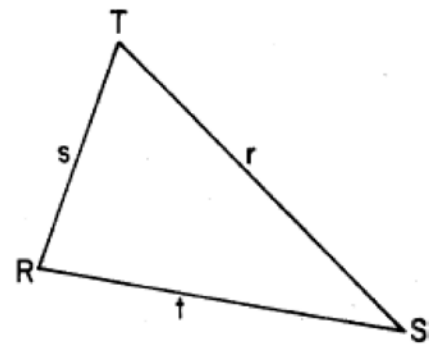


Based on the measures shown in the diagram, which equation can be used to find x , the distance from point A to point S ?

- 1) $\frac{x}{\sin 65^\circ} = \frac{\sin 75^\circ}{32}$ 2) $\frac{\sin 65^\circ}{x} = \frac{\sin 75^\circ}{32}$
 3) $\frac{x}{65} = \frac{32}{75}$ 4) $\frac{65}{x} = \frac{32}{75}$
- 2 In $\triangle PQR$, p equals
 1) $\frac{r \sin P}{\sin Q}$ 2) $\frac{r \sin P}{\sin R}$ 3) $\frac{r \sin R}{\sin P}$ 4) $\frac{q \sin R}{\sin Q}$
- 3 In $\triangle ABC$, $m\angle A = 40$, $m\angle C = 65$, and $c = 12$. Which is a correct expression for a ?
 1) $\frac{12 \sin 40^\circ}{\sin 75^\circ}$ 2) $\frac{12 \sin 65^\circ}{\sin 40^\circ}$ 3) $\frac{12 \sin 65^\circ}{\sin 75^\circ}$
 4) $\frac{12 \sin 40^\circ}{\sin 65^\circ}$
- 4 In $\triangle ABC$, $m\angle A = 75$, $m\angle B = 40$ and $b = 35$. What is the measure of side c ?
 1) $\frac{35 \sin 40^\circ}{\sin 65^\circ}$ 2) $\frac{35 \sin 75^\circ}{\sin 40^\circ}$ 3) $\frac{35 \sin 40^\circ}{\sin 75^\circ}$
 4) $\frac{35 \sin 65^\circ}{\sin 40^\circ}$

- 5 In $\triangle ABC$, $\sin A = \frac{1}{2}$ and $\sin B = \frac{1}{2}\sqrt{2}$. The value of $\frac{b}{a}$ is
 1) $\frac{1}{2}$ 2) 2 3) $\sqrt{2}$ 4) $\frac{1}{2}\sqrt{2}$

- 6 In triangle RST , what is the value of r in terms of R , T , and t ?



- 1) $r = \frac{tR}{T}$ 2) $r = \frac{t \cdot \sin T}{\sin R}$ 3) $r = \frac{\sin T}{t \cdot \sin R}$
 4) $r = \frac{t \cdot \sin R}{\sin T}$

- 7 In triangle ABC , $\sin A = 0.8$, $\sin B = 0.3$, and $a = 24$. Find the length of side b .
- 8 In $\triangle RST$, $\sin R = 0.6$, $\sin S = 0.4$, and side $s = 16$. Find the length of side r .
- 9 In $\triangle ABC$, $\sin A = \frac{1}{3}$, $\sin B = \frac{1}{5}$, and $b = 6$. Find side a .

- 10 In triangle ABC , $\sin A = \frac{4}{5}$, $\sin B = \frac{3}{4}$, and $a = 16$.
Find b .
- 11 In triangle ABC , $\sin A = 0.3$, $\sin B = 0.4$, and $a = 6$.
Find b .
- 12 In triangle ABC , $\sin A = 0.3$, $\sin B = 0.4$, and $a = 12$.
Find b .
- 13 In $\triangle ABC$, $\sin A = \frac{1}{2}$, $\sin C = \frac{1}{3}$, and $a = 12$. Find
the length of side c .
- 14 In $\triangle ABC$, $\sin A = \frac{4}{5}$, $\sin C = \frac{2}{3}$, and $a = 18$. Find c .
- 15 In $\triangle ABC$, $a = 10$, $\sin A = 0.30$, and $\sin C = 0.24$.
Find c .
- 16 In $\triangle ABC$, $\sin A = \frac{2}{3}$, $\sin B = \frac{4}{5}$, and side $a = 20$.
Find side b .
- 17 In $\triangle ABC$, $a = 12$, $\sin A = 0.45$, and $\sin B = 0.15$.
Find b .
- 18 In $\triangle ABC$, $a = 2$, $\sin A = \frac{2}{3}$, and $\sin B = \frac{5}{6}$. Find the
length of side b .
- 19 In $\triangle ABC$, $\sin A = 0.3$, $\sin B = 0.8$, and $b = 12$. Find
the length of side a .
- 20 In $\triangle ABC$, $\sin A = \frac{1}{4}$, $\sin B = \frac{1}{8}$, and $b = 20$. What
is the length of a ?
- 21 In $\triangle ABC$, $a = 24$, $\sin A = \frac{3}{4}$, and $\sin B = \frac{1}{2}$. Find b .
- 22 In $\triangle ABC$, side $a = 18$, $\sin A = \frac{3}{4}$, and $\sin B = \frac{2}{3}$.
Find the length of side b .
- 23 In $\triangle ABC$, $\sin A : \sin B : \sin C = 4 : 5 : 6$. Find the
value of c when $a = 10$.
- 24 In $\triangle ABC$, $m\angle A = 45$, $m\angle B = 30$, and side $a = 10$.
What is the length of side b ?
1) $5\sqrt{2}$ 2) $5\sqrt{3}$ 3) $10\sqrt{2}$ 4) $10\sqrt{3}$
- 25 In $\triangle ABC$, $\sin A = \frac{1}{2}$, $b = 20$, 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) $20\sqrt{2}$
- 26 In $\triangle ABC$, $\sin A = \frac{1}{3}$, $m\angle B = 30$, and $a = 12$. What
is the length of b ?
- 27 In $\triangle RST$, $\sin T = \frac{1}{5}$, $m\angle R = 30$, and $r = 15$. What
is the length of t ?

G.SRT.D.11: Law of Sines 1**Answer Section**

1 ANS: 2

The Law of Sines may also be written as $\frac{\sin A}{a} = \frac{\sin B}{b}$

REF: 010702b

2 ANS: 2

REF: 061322a2

3 ANS: 4

REF: 068530siii

4 ANS: 4

REF: 069430siii

5 ANS: 3

REF: 019412siii

6 ANS: 4

REF: 088533siii

7 ANS:

9

REF: 068019siii

8 ANS:

24

REF: 068115siii

9 ANS:

10

REF: 018414siii

10 ANS:

15

REF: 068408siii

11 ANS:

8

REF: 088602siii

12 ANS:

16

REF: 088701siii

13 ANS:

8

REF: 018911siii

14 ANS:

15

REF: 089403siii

15 ANS:
8

REF: 089504siii

16 ANS:
24

REF: 019703siii

17 ANS:
4

REF: 069702siii

18 ANS:
2.5

REF: 010010siii

19 ANS:
4.5

REF: 060001siii

20 ANS:
40

REF: 060103siii

21 ANS:
16

REF: 080102siii

22 ANS:
16

REF: 060304siii

23 ANS:
15

REF: 069807siii

24 ANS: 1

REF: 089730siii

25 ANS: 3

REF: 069920siii

26 ANS:
18

REF: 089911siii

27 ANS:
6

REF: 080211siii