

SAT TRIGONOMETRY

1

9

A) $\frac{25}{64}$
 B) $\frac{39}{64}$
 C) $\frac{5}{8}$
 D) $\frac{\sqrt{39}}{8}$

In the right triangle ABC above, $\sin(x^\circ) = \frac{5}{8}$. What is the value of $\cos(y^\circ)$?

2

12

In triangle ABC , the measure of angle C is 90° . If $\sin A = \frac{3}{5}$, what is $\cos B$?

A) $\frac{3}{5}$ C) $\frac{5}{4}$
 B) $\frac{4}{5}$ D) $\frac{5}{3}$

3

17

In the triangle above, the sine of x° is 0.6. What is the cosine of y° ?

4

12

In the figure above, triangle ABC is similar to triangle DEF . What is the value of $\cos(E)$?

A) $\frac{12}{5}$
 B) $\frac{12}{13}$
 C) $\frac{5}{12}$
 D) $\frac{5}{13}$

5

6

In right triangle ABC , the length of side \overline{AC} is 12, the measure of $\angle A$ is 40° , and $\angle B$ is a right angle. Which of the following can be determined using the information given?

I. The measure of $\angle C$
 II. The length of side \overline{AB}

A) I only
 B) II only
 C) I and II
 D) Neither I nor II

6

8

In the right triangle PQR , the length of side \overline{PQ} is 70, the measure of angle P is 90° , and the measure of angle R is 38° . Which of the following represents the length of side \overline{QR} ?

A) $\frac{70}{\sin 52^\circ}$
 B) $\frac{70}{\sin 38^\circ}$
 C) $70 \sin 52^\circ$
 D) $70 \sin 38^\circ$

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19

Triangle PQR has right angle Q . If $\sin R = \frac{4}{5}$, what is the value of $\tan P$?

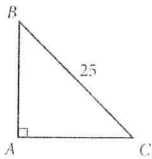
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In triangle ABC , the measure of $\angle B$ is 90° , $BC = 16$, and $AC = 20$. Triangle DEF is similar to triangle ABC , where vertices D , E , and F correspond to vertices A , B , and C , respectively, and each side of triangle DEF is $\frac{1}{3}$ the length of the corresponding side of triangle ABC . What is the value of $\sin F$?

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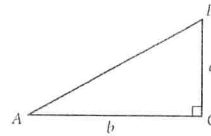
- A) I only
 B) II only
 C) Either I or II
 D) Neither I nor II

Which of the following additional measurements the triangle provides enough information to determine the length of \overline{AB} ?

- I. The length of \overline{AC}
 II. The measure of $\angle ABC$

10

26

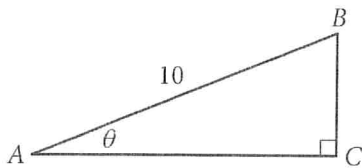


Given the right triangle ABC above, which of the following is equal to $\frac{b}{a}$?

- A) $\sin A$ C) $\tan A$
 B) $\sin B$ D) $\tan B$

11

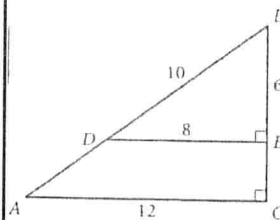
35



In the right triangle above, $\sin \theta = \frac{2}{5}$. If $AC = \sqrt{n}$, what is the value of n ?

12

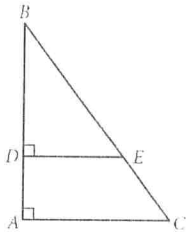
18



In the figure, triangles ABC and DBE are right triangles. What is $\cos B$?

13

36



In the figure above, $\tan B = \frac{3}{4}$. If $BC = 15$ and $DA = 4$, what is the length of \overline{DE} ?

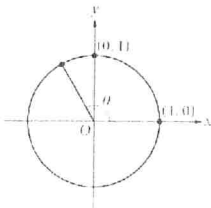
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The number of radians in a 720-degree angle can be written as $a\pi$, where a is a constant. What is the value of a ?

15

23



In the given figure, θ is an angle. If $\sin \theta = \frac{\sqrt{3}}{2}$, what is $\cos \theta$?

- A) $\frac{\sqrt{3}}{2}$
- B) $\frac{1}{2}$
- C) $-\frac{1}{2}$
- D) $-\frac{\sqrt{3}}{2}$

16

11

What is the value of $\sin\left(\frac{3\pi}{4}\right)$?

- A) $-\frac{\sqrt{2}}{2}$
- B) $-\frac{\sqrt{3}}{2}$
- C) $\frac{\sqrt{2}}{2}$
- D) $\frac{\sqrt{3}}{2}$

17

19

An angle with a measure of $\frac{7\pi}{6}$ radians has a measure of d degrees, where $0 \leq d < 360$. What is the value of d ?

18

25

If $\sin x^\circ = a$, which of the following must be true for all values of x ?

- A) $\cos x^\circ = a$
- B) $\sin(90^\circ - x^\circ) = a$
- C) $\cos(90^\circ - x^\circ) = a$
- D) $\sin(x^2)^\circ = a^2$

19

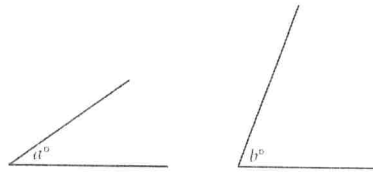
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In a right triangle, one angle measures x° , where

$\sin x^\circ = \frac{4}{5}$. What is $\cos(90^\circ - x^\circ)$?

20

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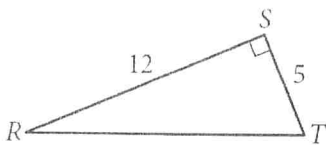
Note: Figures not drawn to scale.

The angles shown above are acute and $\sin(a^\circ) = \cos(b^\circ)$. If $a = 4k - 22$ and $b = 6k - 13$, what is the value of k ?

- A) 4.5 C) 12.5
- B) 5.5 D) 21.5

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In triangle RST above, point W (not shown) lies on \overline{RT} . What is the value of $\cos(\angle RSW) - \sin(\angle WST)$?

22

5

Which of the following is equal to $\sin\left(\frac{\pi}{5}\right)$?

- A) $-\cos\left(\frac{\pi}{5}\right)$
- B) $-\sin\left(\frac{\pi}{5}\right)$
- C) $\cos\left(\frac{3\pi}{10}\right)$
- D) $\sin\left(\frac{7\pi}{10}\right)$

- 1 C
- 2 A
- 3 .6 3/5
- 4 B
- 5 C
- 6 B
- 7 3/4 .75
- 8 3/5 .6
- 9 C
- 10 D
- 11 84

- 12 3/5 .6
- 13 6
- 14 4
- 15 C
- 16 C
- 17 210
- 18 C
- 19 4/5 .8
- 20 C
- 21 Ø
- 22 C