

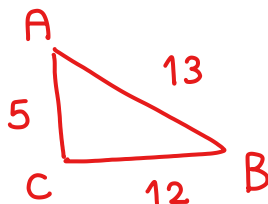
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■■■

ID: bd87bc09

3.1



ถ้าทำได้



$$\sin(B) = \frac{5}{13}$$

$$\frac{12}{13} = \frac{y}{26}$$

$$y = 24 //$$

$$\frac{5}{13} = \frac{x}{26}$$

$$x = 10$$

$$\sqrt{26^2 - 10^2} = 24 //$$

Triangle **ABC** above is a right triangle, and

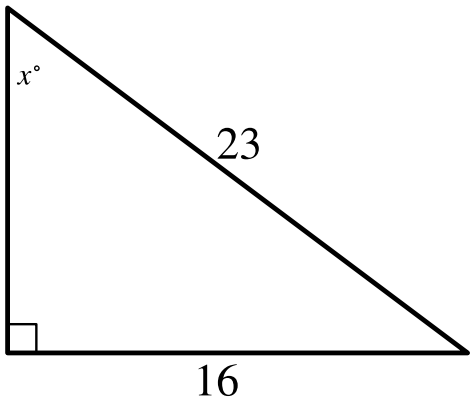
What is the length of side $\overline{BC}$?

Question ID 1429dcdf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 1429dcdf

3.2



Note: Figure not drawn to scale.

In the triangle shown, what is the value of $\sin x^\circ$?

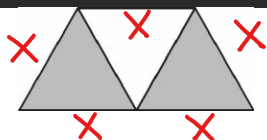
$\frac{16}{23}$ //

Question ID 4c95c7d4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 4c95c7d4

3.3



A graphic designer is creating a logo for a company. The logo is shown in the figure above. The logo is in the shape of a trapezoid and consists of three congruent equilateral triangles. If the perimeter of the logo is 20 centimeters, what is the combined area of the shaded regions, in square centimeters, of the logo?

A. $2\sqrt{3}$

B. $4\sqrt{3}$

~~C. $8\sqrt{3}$~~

D. 16

$$5x = 20$$

$$x = 4$$

$$2 \left(\frac{\sqrt{3}}{4} \times 4^2 \right) = 8\sqrt{3} //$$

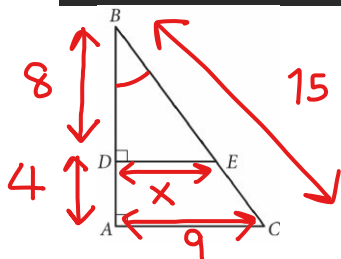
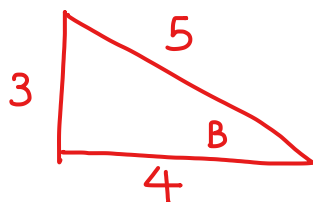
$$4 \begin{array}{c} \triangle \\ \leftarrow 2 \end{array} 4 \quad 2 \left(\frac{1}{2} \times 4 \times \sqrt{4^2 - 2^2} \right) = 8\sqrt{3} //$$

Question ID 55bb437a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■■■

ID: 55bb437a

3.4



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

คิดได้หลายวิธีมาก

$$\sin B = \frac{AC}{15}$$

$$\frac{3}{5} = \frac{AC}{15}$$

$$AC = 9$$

$$\cos B = \frac{BA}{15}$$

$$\frac{4}{5} = \frac{BA}{15}$$

$$BA = 12$$

$$\frac{8}{12} = \frac{x}{9}$$

$$x = 6$$

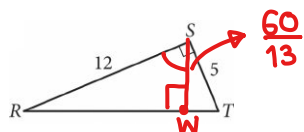
//

Question ID 6933b3d9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 6933b3d9

3.5



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

$$RT = 13$$

$$SW = \frac{12 \times 5}{13} = \frac{60}{13}$$

$$RW = \sqrt{12^2 - \left(\frac{60}{13}\right)^2} = \frac{144}{13}$$

$$WT = \sqrt{5^2 - \left(\frac{60}{13}\right)^2} = \frac{25}{13}$$

$$\frac{\frac{60}{13}}{12} - \frac{\frac{25}{13}}{5} = 0 //$$

$$\frac{60}{156} - \frac{5}{13} = 0 //$$

ระวัง ตอน กด เครื่องคิดเลข

Question ID 6ab30ce3

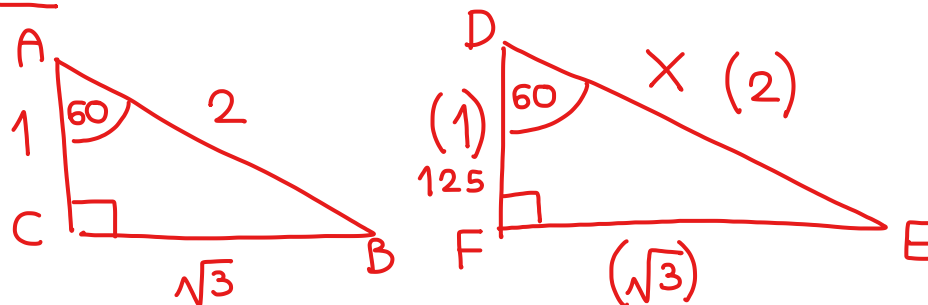
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 6ab30ce3

3.6

Triangle ABC is similar to triangle DEF , where A corresponds to D and C corresponds to F . Angles C and F are right angles. If $\tan(A) = \sqrt{3}$ and $DF = 125$, what is the length of DE ?

- A. $125 \frac{\sqrt{3}}{3}$
- B. $125 \frac{\sqrt{3}}{2}$
- C. $125\sqrt{3}$
- ~~D. 250~~



$$\cos D = \frac{125}{X}$$

$$\frac{1}{2} = \frac{125}{X}$$

$$X = 250 //$$

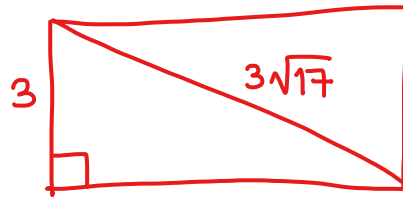
Question ID 7c25b0dc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 7c25b0dc

3.7

The length of a rectangle's diagonal is $3\sqrt{17}$, and the length of the rectangle's shorter side is 3. What is the length of the rectangle's longer side?



$$\sqrt{(3\sqrt{17})^2 - 3^2} = 12 //$$

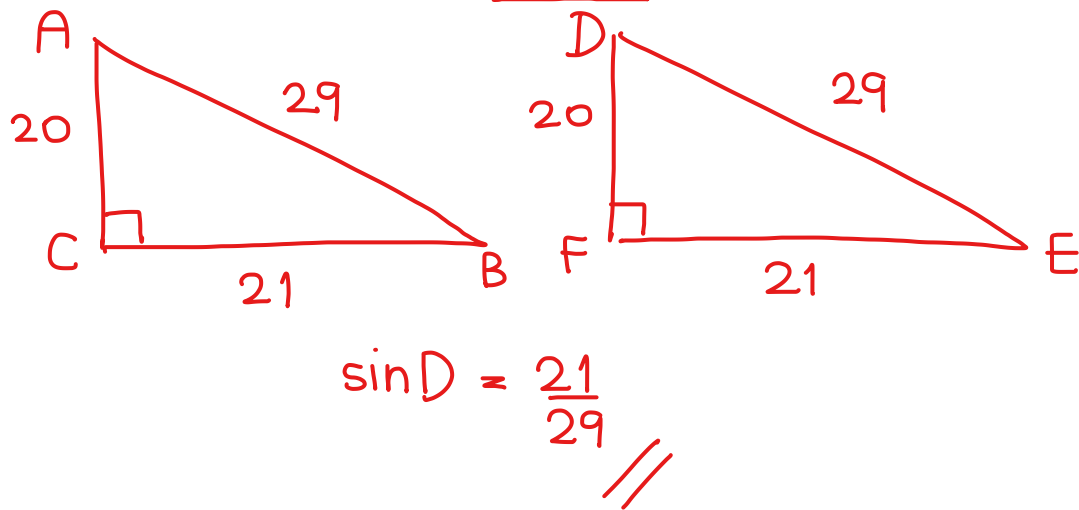
Question ID c6dff223

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: c6dff223

3.8

Triangle ABC is similar to triangle DEF , where angle A corresponds to angle D and angles C and F are right angles. The length of AB is 2.9 times the length of DE . If $\tan A = \frac{21}{20}$, what is the value of $\sin D$?



Question ID 92eb236a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 92eb236a

3.9

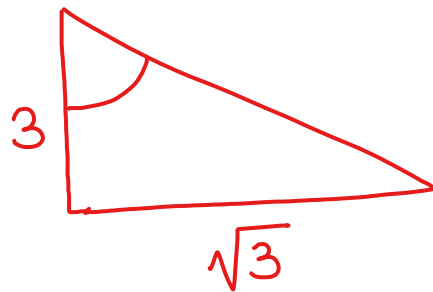
In a right triangle, the tangent of one of the two acute angles is $\frac{\sqrt{3}}{3}$. What is the tangent of the other acute angle?

A. ~~$\frac{\sqrt{3}}{3}$~~

B. ~~$\frac{3}{\sqrt{3}}$~~

C. $\frac{\sqrt{3}}{3}$

~~$\frac{3}{\sqrt{3}}$~~



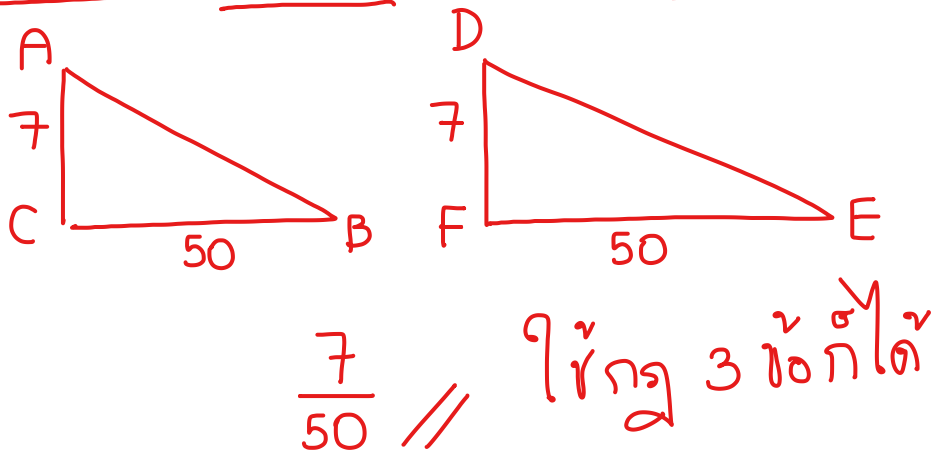
Question ID 2be01bd9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■■■

ID: 2be01bd9

3.10

Triangle ABC is similar to triangle DEF , where angle A corresponds to angle D and angle C corresponds to angle F . Angles C and F are right angles. If $\tan(A) = \frac{50}{7}$, what is the value of $\tan(E)$?

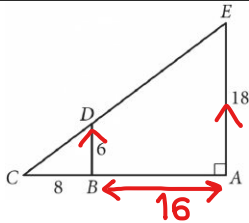


Question ID dba6a25a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: dba6a25a

3.11



In the figure above, $\overline{BD}$ is parallel to $\overline{AE}$.

What is the length of $\overline{CE}$?

$$\frac{6}{18} = \frac{8}{8+x}$$

$$x = 16$$

$$\sqrt{24^2 + 18^2} = 30 //$$

Question ID 25da87f8

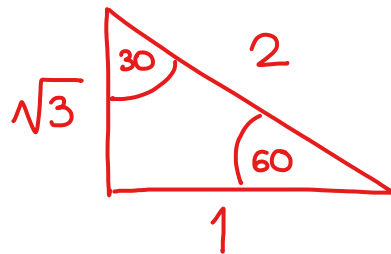
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 25da87f8

877

3.12

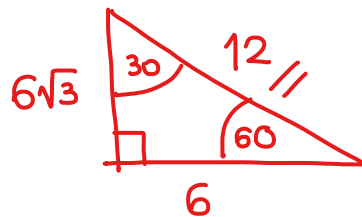
A triangle with angle measures 30° , 60° , and 90° has a perimeter of $18 + 6\sqrt{3}$. What is the length of the longest side of the triangle?



$$X (\sqrt{3} + 1 + 2) = 18 + 6\sqrt{3}$$

$$X = \frac{18 + 6\sqrt{3}}{3 + \sqrt{3}}$$

$$X = 6$$

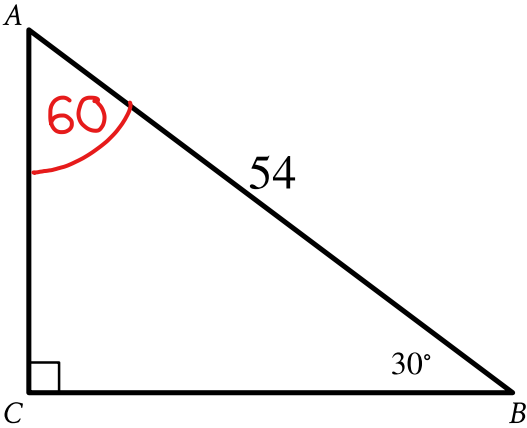


Question ID 52f7b898

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■ ■ ■

ID: 52f7b898

3.13



Note: Figure not drawn to scale.

Right triangle ABC is shown. What is the value of $\tan A$?

- A. $\frac{\sqrt{3}}{54}$
- B. $\frac{1}{\sqrt{3}}$
- ~~C. $\sqrt{3}$~~
- D. $27\sqrt{3}$

$\tan 60 = \sqrt{3}$