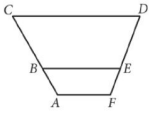
SAT Math

Lines, Angles, and Triangles 2

Question # **ID**

2.1 81b664bc



In the figure above, $\overline{AF}$, $\overline{BE}$, and $\overline{CD}$ are parallel. Points *B* and *E* lie on $\overline{AC}$ and $\overline{FD}$, respectively. If $AB = 9$, $BC = 18.5$, and $FE = 8.5$, what is the length of $\overline{ED}$, to the nearest tenth?

A. 16.8

B. 17.5

C. 18.4

D. 19.6

2.2 94364a79

Two nearby trees are perpendicular to the ground, which is flat. One of these trees is 10 feet tall and has a shadow that is 5 feet long. At the same time, the shadow of the other tree is 2 feet long. How tall, in feet, is the other tree?

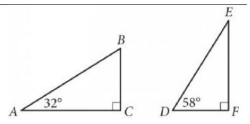
A. 3

B. 4

C. 8

D. 27

2.3 933fee1a



Triangles *ABC* and *DEF* are shown above. Which of the following is equal to the ratio $\frac{BC}{AB}$?

A. $\frac{DE}{DF}$

B. $\frac{DF}{DE}$

C. $\frac{DF}{EF}$

D. $\frac{EF}{DE}$

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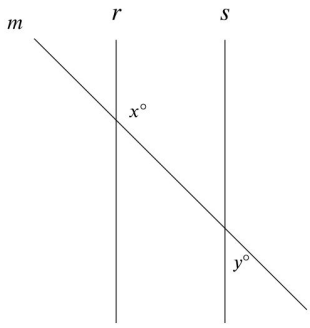
2.4 a4c05a1b



Note: Figure not drawn to scale.

In the figure shown, lines r and s are parallel, and line m intersects both lines. If $y < 65$, which of the following must be true?

A. $x < 115$

B. $x > 115$

C. $x + y < 180$

D. $x + y > 180$

2.5 d3fe472f

Triangle ABC is similar to triangle XYZ, such that A, B, and C correspond to X, Y, and Z respectively. The length of each side of triangle XYZ is 2 times the length of its corresponding side in triangle ABC. The measure of side AB is 16. What is the measure of side XY?

A. 14

B. 16

C. 18

D. 32

2.6 fd8745fc

In triangle JKL, the measures of $\angle K$ and $\angle L$ are each 48°. What is the measure of $\angle J$, in degrees? (Disregard the degree symbol when entering your answer.)

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2.7 901e3285

In triangle *ABC*, the measure of angle *A* is $50°$. If triangle *ABC* is isosceles, which of the following is NOT a possible measure of angle *B* ?

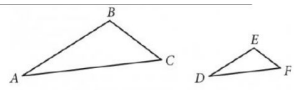
A. $50°$

B. $65°$

C. $80°$

D. $100°$

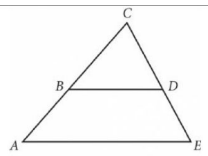
2.8 1c3d613c



Note: Figures not drawn to scale.

Triangle *ABC* and triangle *DEF* are shown. The relationship between the side lengths of the two triangles is such that $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF} = 3$. If the measure of angle *BAC* is 20°, what is the measure, in degrees, of angle *EDF* ? (Disregard the degree symbol when gridding your answer.)

2.9 6dd463ca



Note: Figure not drawn to scale.

In the figure above, segments *AE* and *BD* are parallel. If angle *BDC* measures 58° and angle *ACE* measures 62°, what is the measure of angle *CAE* ?

A. 58°

B. 60°

C. 62°

D. 120°

2.10 7a8ad237

Triangles ABC and DEF are congruent, where A corresponds to D, and B and E are right angles. The measure of angle A is 69°. What is the measure, in degrees, of angle F?

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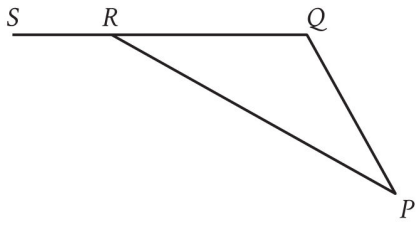
2.11 014edcb7



Note: Figure not drawn to scale.

In triangle PQR, $\overline{QR}$ is extended to point S. The measure of $\angle PQR$ is 132°, and the measure of $\angle PRS$ is 163°. What is the measure of $\angle QPR$?

A. 48°

B. 31°

C. 24°

D. 17°

2.12 2085e10e

In triangle DEF, the measure of angle D is 47° and the measure of angle E is 97°. In triangle RST, the measure of angle R is 47° and the measure of angle S is 97°. Which of the following additional pieces of information is needed to determine whether triangle DEF is similar to triangle RST?

A. The measure of angle F

B. The measure of angle T

C. The measure of angle F and the measure of angle T

D. No additional information is needed.

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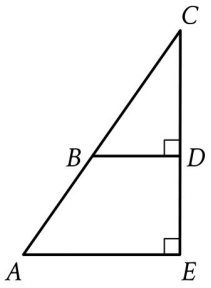
2.13	2f7c92ad



Note: Figure not drawn to scale.

In the figure shown, triangle CAE is similar to triangle CBD. The measure of angle CBD is 57°, and $AE = 26(BD)$. What is the measure of angle CAE?

A. $(26 \cdot 57)^\circ$

B. $(26 + 57)^\circ$

C. 57°

D. 26°