

STANDARD VII: The student will be able to solve problems involving a variety of algebraic and geometric concepts.

OBJECTIVE

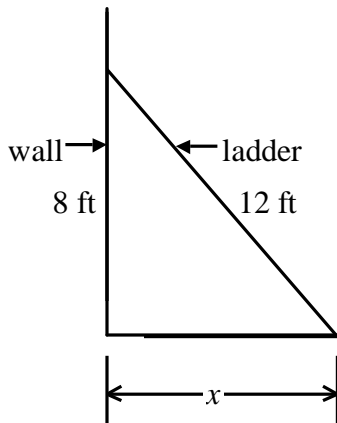
2. Apply Pythagorean Theorem.

ELIGIBLE CONTENT

- The Pythagorean Theorem will be given on the reference page.
- Diagrams will be included.
- Word problems will be used.
- Radicals may be included in options.
- All radicals will be simplified.
- Drawings will be to scale.

SAMPLE ITEMS

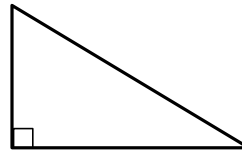
1 Peter uses a 12-foot ladder to wash windows at his house.



What is the distance (x) from the base of the wall to the bottom of the ladder?

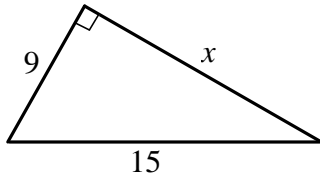
- A $4\sqrt{5}$ feet
- B $4\sqrt{13}$ feet
- C $16\sqrt{5}$ feet
- D $16\sqrt{13}$ feet

2 Which of these sets of numbers could be the lengths of the sides of a right triangle?



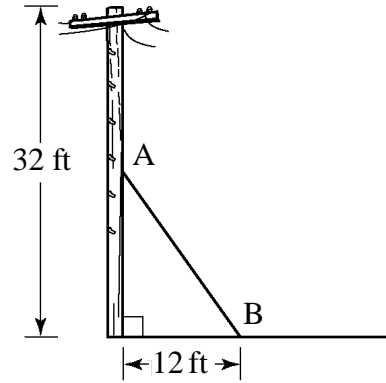
- A {2, 3, 4}
- B {3, 4, 6}
- C {5, 12, 13}
- D {6, 10, 11}

- 3** What is the value of x in the right triangle below?



- A 6
- B 12
- C $\sqrt{6}$
- D $3\sqrt{34}$

- 4** The diagram below shows a 32-foot telephone pole. An electrician wants to connect a support wire from point A, halfway up the pole, to point B.



What is the length of the wire?

- A 12 feet
- B 16 feet
- C 20 feet
- D 34 feet