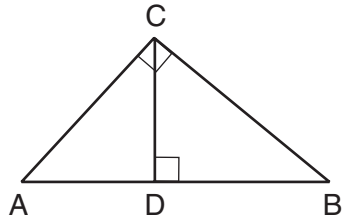


Use this space for
computations.

- 22 In the diagram below, \overline{CD} is the altitude drawn to the hypotenuse \overline{AB} of right triangle ABC .

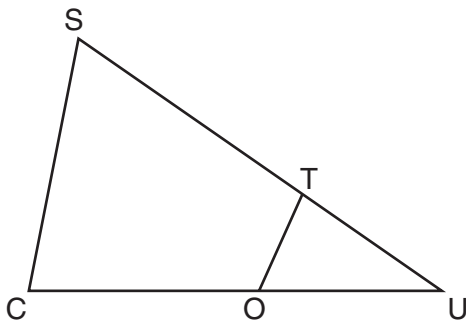


Which lengths would *not* produce an altitude that measures $6\sqrt{2}$?

- (1) $AD = 2$ and $DB = 36$ (3) $AD = 6$ and $DB = 12$
(2) $AD = 3$ and $AB = 24$ (4) $AD = 8$ and $AB = 17$
- 23 A designer needs to create perfectly circular necklaces. The necklaces each need to have a radius of 10 cm. What is the largest number of necklaces that can be made from 1000 cm of wire?

- (1) 15 (3) 31
(2) 16 (4) 32

- 24 In $\triangle SCU$ shown below, points T and O are on \overline{SU} and \overline{CU} , respectively. Segment OT is drawn so that $\angle C \cong \angle OTU$.



If $TU = 4$, $OU = 5$, and $OC = 7$, what is the length of \overline{ST} ?

- (1) 5.6 (3) 11
(2) 8.75 (4) 15

Part II

Answer all 7 questions in this part. Each correct answer will receive 2 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [14]

- 25 Triangle ABC is graphed on the set of axes below. Graph and label $\triangle A'B'C'$, the image of $\triangle ABC$ after a reflection over the line $x = 1$.

