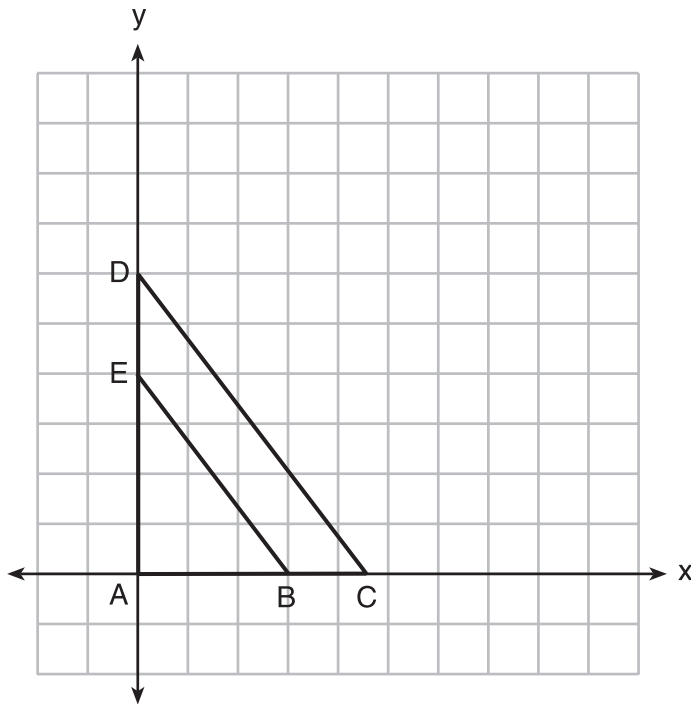


Use this space for computations.

22 A quadrilateral has vertices with coordinates $(-3,1)$, $(0,3)$, $(5,2)$, and $(-1,-2)$. Which type of quadrilateral is this?

- (1) rhombus
- (2) rectangle
- (3) square
- (4) trapezoid

23 In the diagram below, $\triangle ABE$ is the image of $\triangle ACD$ after a dilation centered at the origin. The coordinates of the vertices are $A(0,0)$, $B(3,0)$, $C(4.5,0)$, $D(0,6)$, and $E(0,4)$.



The ratio of the lengths of \overline{BE} to \overline{CD} is

- (1) $\frac{2}{3}$
- (2) $\frac{3}{2}$
- (3) $\frac{3}{4}$
- (4) $\frac{4}{3}$

24 Line $y = 3x - 1$ is transformed by a dilation with a scale factor of 2 and centered at $(3,8)$. The line's image is

- (1) $y = 3x - 8$
- (2) $y = 3x - 4$
- (3) $y = 3x - 2$
- (4) $y = 3x - 1$

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]

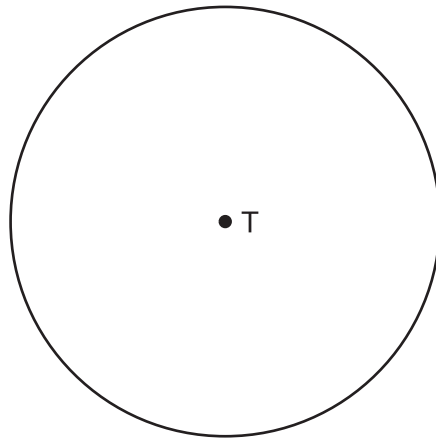
25 A wooden cube has an edge length of 6 centimeters and a mass of 137.8 grams. Determine the density of the cube, to the *nearest thousandth*.

State which type of wood the cube is made of, using the density table below.

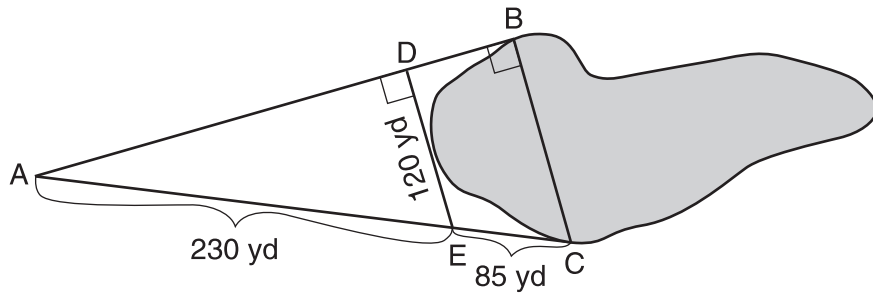
Type of Wood	Density (g/cm ³)
Pine	0.373
Hemlock	0.431
Elm	0.554
Birch	0.601
Ash	0.638
Maple	0.676
Oak	0.711

26 Construct an equilateral triangle inscribed in circle T shown below.

[Leave all construction marks.]



27 To find the distance across a pond from point B to point C , a surveyor drew the diagram below. The measurements he made are indicated on his diagram.



Use the surveyor's information to determine and state the distance from point B to point C , to the nearest yard.