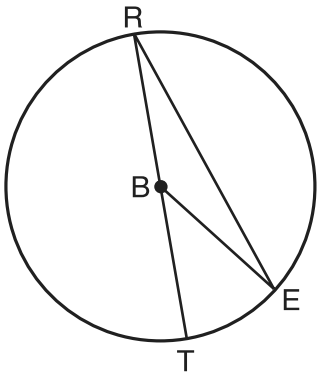
Use this space for computations.

13 In circle B below, diameter $\overline{RT}$, radius $\overline{BE}$, and chord $\overline{RE}$ are drawn.



If $m\angle TRE = 15°$ and $BE = 9$, then the area of sector EBR is

(1) 3.375π

(2) 6.75π

(3) 33.75π

(4) 37.125π

14 Lou has a solid clay brick in the shape of a rectangular prism with a length of 8 inches, a width of 3.5 inches, and a height of 2.25 inches. If the clay weighs 1.055 oz/in^3, how much does Lou's brick weigh, to the *nearest ounce*?

(1) 66

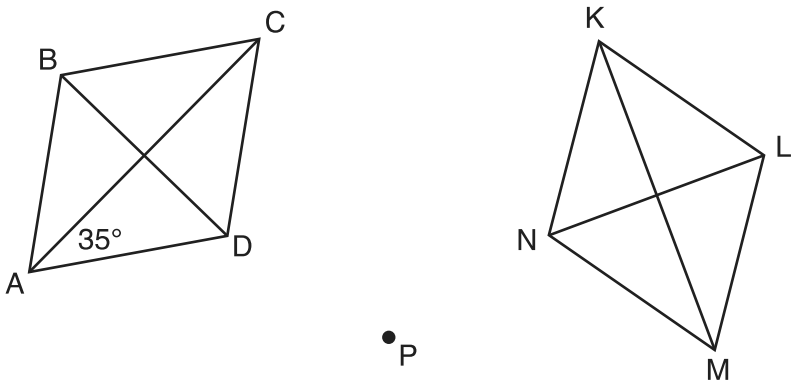
(2) 64

(3) 63

(4) 60

Use this space for computations.

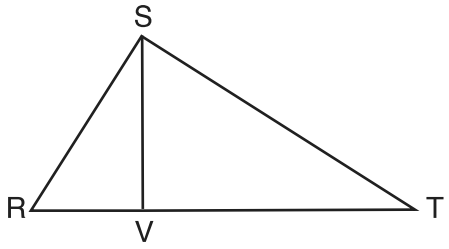
15 Rhombus *ABCD* can be mapped onto rhombus *KLMN* by a rotation about point *P*, as shown below.



What is the measure of $\angle KNM$ if the measure of $\angle CAD = 35°$?

(1) 35°
(2) 55°
(3) 70°
(4) 110°

16 In right triangle *RST* below, altitude $\overline{SV}$ is drawn to hypotenuse $\overline{RT}$.

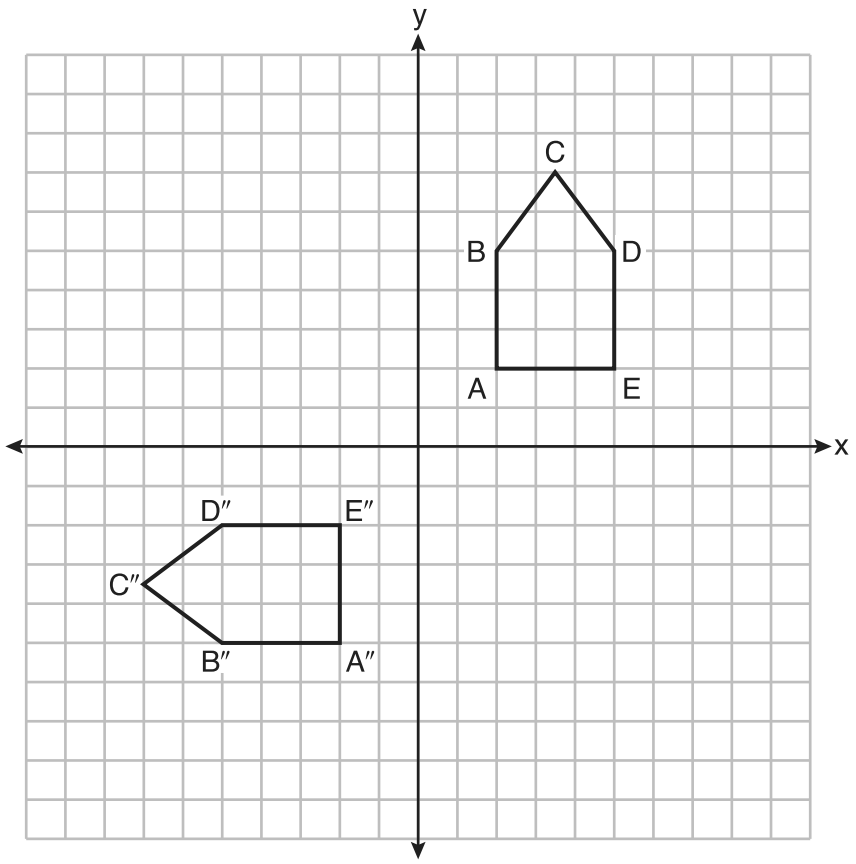


If $RV = 4.1$ and $TV = 10.2$, what is the length of $\overline{ST}$, to the *nearest tenth*?

(1) 6.5
(2) 7.7
(3) 11.0
(4) 12.1

Use this space for computations.

17 On the set of axes below, pentagon *ABCDE* is congruent to *A″B″C″D″E″*.



Which describes a sequence of rigid motions that maps *ABCDE* onto *A″B″C″D″E″*?

(1) a rotation of 90° counterclockwise about the origin followed by a reflection over the *x*-axis

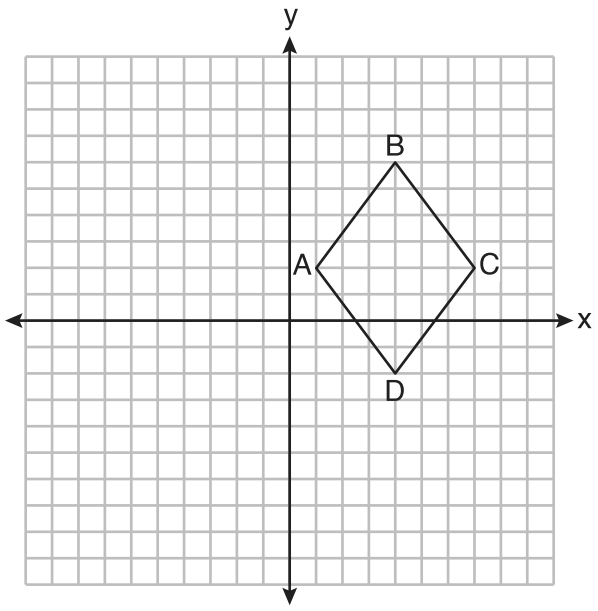
(2) a rotation of 90° counterclockwise about the origin followed by a translation down 7 units

(3) a reflection over the *y*-axis followed by a reflection over the *x*-axis

(4) a reflection over the *x*-axis followed by a rotation of 90° counterclockwise about the origin

Use this space for computations.

18 On the set of axes below, rhombus *ABCD* has vertices whose coordinates are *A*(1,2), *B*(4,6), *C*(7,2), and *D*(4,–2).



What is the area of rhombus *ABCD*?

(1) 20
(2) 24
(3) 25
(4) 48

19 Which figure(s) below can have a triangle as a two-dimensional cross section?

I. cone
II. cylinder
III. cube
IV. square pyramid

(1) I, only
(2) IV, only
(3) I, II, and IV, only
(4) I, III, and IV, only

Use this space for computations.

20 What is an equation of a circle whose center is at $(2,-4)$ and is tangent to the line $x = -2$?

(1) $(x - 2)^2 + (y + 4)^2 = 4$

(2) $(x - 2)^2 + (y + 4)^2 = 16$

(3) $(x + 2)^2 + (y - 4)^2 = 4$

(4) $(x + 2)^2 + (y - 4)^2 = 16$

21 For the acute angles in a right triangle, $\sin(4x)° = \cos(3x + 13)°$. What is the number of degrees in the measure of the *smaller* angle?

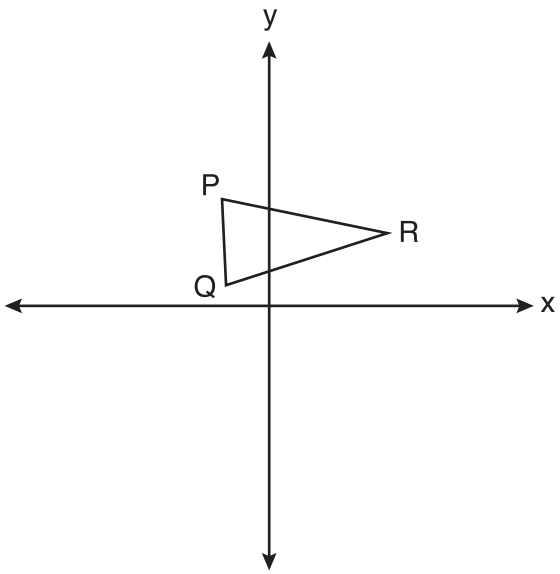
(1) 11°

(2) 13°

(3) 44°

(4) 52°

22 Triangle PQR is shown on the set of axes below.



Which quadrant will contain point R'', the image of point R, after a 90° clockwise rotation centered at (0,0) followed by a reflection over the x-axis?

(1) I

(2) II

(3) III

(4) IV