

Preparing for College Entrance Exams

Strategy for Success

Try to work quickly and accurately on exam questions. Do not take time to double-check your answers unless you finish all the questions before the deadline. Skip questions that are too difficult for you, and spend no more than a few minutes on each question.

Indicate the best answer by writing the appropriate letter.

- Find an equation of the perpendicular bisector of the segment joining $(3, -1)$ and $(-1, 7)$.
 (A) $x + 2y = 7$ (B) $x - 2y = -5$ (C) $2x + y = -5$
 (D) $2x + y = 5$ (E) $2x - y = -1$
- A circle has a diameter with endpoints $(0, -8)$ and $(-6, -16)$. An equation of the circle is:
 (A) $(x + 3)^2 + (y + 12)^2 = 25$ (B) $(x + 3)^2 + (y + 12)^2 = 100$
 (C) $(x - 3)^2 + (y - 12)^2 = 25$ (D) $(x - 3)^2 + (y - 12)^2 = 100$
 (E) $(x + 6)^2 + (y + 24)^2 = 100$
- The point $(\frac{1}{2}, -\frac{1}{2})$ lies on line t . Which of the following allow you to find an equation for t ?
 I. slope of t is -3 II. x -intercept of t is 7 III. t is parallel to $4x - 5y = 7$
 (A) I only (B) III only (C) I and III only (D) II only (E) I, II, and III
- Given $A(-3, 5)$, $B(0, -4)$, $C(2, 5)$, and $D(-6, -1)$, find the intersection point of \overleftrightarrow{AB} and \overleftrightarrow{CD} .
 (A) $(6, 23)$ (B) $(2, -10)$ (C) $(-2, 2)$ (D) $(-18, 5)$ (E) cannot be determined
- What is the best name for quadrilateral $WXYZ$ with vertices $W(-3, -2)$, $X(-5, 2)$, $Y(1, 5)$, and $Z(3, 1)$?
 (A) isosceles trapezoid (B) parallelogram (C) rectangle
 (D) rhombus (E) square
- Two vertices of an isosceles right triangle are $(0, 0)$ and $(j, 0)$. The third vertex cannot be:
 (A) $(0, j)$ (B) $(0, -j)$ (C) (j, j) (D) $(\frac{j}{2}, \frac{j}{2})$ (E) $(\frac{j}{2}, j)$
- What is the image of $(-2, 3)$ under reflection in the line $y = x$?
 (A) $(3, -2)$ (B) $(2, 3)$ (C) $(-2, -3)$ (D) $(2, -3)$ (E) $(-3, 2)$
- Find the preimage of $(0, 0)$ under $D_{P, \frac{1}{4}}$, where P is the point $(-1, 1)$.
 (A) $(-4, 4)$ (B) $(-\frac{3}{4}, \frac{3}{4})$ (C) $(-\frac{1}{4}, \frac{1}{4})$ (D) $(4, -4)$ (E) $(3, -3)$
- A regular pentagon does *not* have:
 (A) line symmetry (B) point symmetry (C) 360° rotational symmetry
 (D) 216° rotational symmetry (E) 72° rotational symmetry
- If $CDEF$ is a square with vertices labeled counterclockwise, then $\mathcal{R}_{C, -450}: \overline{CF} \rightarrow ?$.
 (A) \overline{FE} (B) \overline{ED} (C) \overline{CF} (D) \overline{CD} (E) none of these