

[07-03-07-T8]
Straight Line in Plane

■ **A.**

- [1] What is the distance between the points $P(-2, -4)$ and $Q(4, 4)$?
- [2] What is the midpoint of the line segment \overline{PQ} , $P(-2, -4)$ and $Q(4, 4)$?
- [3] Graph the line $x = 3$.
- [4] At what point does the line $3x + 5 = y$ intersect the y-axis?
- [5] At what point does the line $3x + 5 = y$ intersect the x-axis?

■ **B.**

- [1] Write the equation for the line through $P(-2, -4)$ and $Q(4, 4)$.
- [2] Are the lines $x - 5y = -15$ and $x + 3y = 9$ parallel?
- [3] Write the equation for the line through $P(3, -4)$ and parallel to the line $y = 2x + 5$.
- [4] Are the lines $5x - 2y = 4$ and $-2x - 5y = 15$ perpendicular?
- [5] Are the lines $-3x - 2y = -12$ and $4x - 3y = 6$ perpendicular?
- [6] Write the equation for the line through $P(3, -4)$ and perpendicular to the line $y = 2x + 5$.

■ **C.**

- [1] At what point do the lines $\frac{-x}{7} + 5 = y$ and $\frac{-x}{7} - 7 = y$ intersect?
- [2] At what point do the lines $-5x + 3 = y$ and $-15x + 9 = 3y$ intersect?

■ **D.**

- *[1] If the equation of a circle in the plane is $x^2 + y^2 = 25$, then what is the point of intersection of this circle and the line $x = 4$?