

Which point represents the polar coordinates (6, 30)?

- A. (5.2, 3)
- B. (5.3, 2)
- C. (3, 5.2)
- D. (3.2, 5)

**Solution:**

Polar coordinates are  $(r, \theta)$ . Rectangular coordinates are  $(x, y)$ . Conversion from polar to rectangular coordinates is

$$x = r * \cos(\theta)$$

$$y = r * \sin(\theta)$$

In our case  $r = 6$ , and  $\theta = 30^\circ$

$$x = 6 * \cos(30) = 6 * \frac{\sqrt{3}}{2} = 5.2$$

$$y = 6 * \sin(30) = 6 * \frac{1}{2} = 3$$

So in Rectangular coordinates it is point (5.2,3).

**Answer:** A (5.2, 3)