Answer on Question#38854 – Physics – Other

determine x and y:
A 31-m/s velocity vector that makes an angle of 44° counterclockwise from the -x direction. x: y:

Solution:
Projection of the velocity vector on the X-axis:

$$V_x = V \cdot \cos 44° = 31 \frac{m}{s} \cdot \cos 44° = 22.3 \frac{m}{s}$$

Projection of the velocity vector on the X-axis:

$$V_y = V \cdot \sin 44° = 31 \frac{m}{s} \cdot \sin 44° = 21.5 \frac{m}{s}$$

Answer: x: $22.3 \frac{m}{s}$
y: $21.5 \frac{m}{s}$