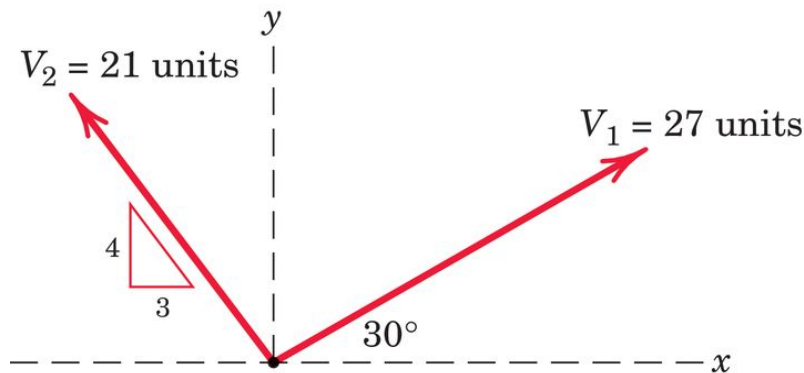


**Engr 152, Fall 2019**

**HW #1:** Chapter 1, Meriam and Kraige, 8<sup>th</sup> Ed.: Probs. 1/2, 1/7abc, 1/9

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- 1/2** Determine the magnitude of the vector sum  $\underline{V} = \underline{V}_1 + \underline{V}_2$  and the angle  $\theta_x$  which  $\underline{V}$  makes with the positive  $x$ -axis. Complete both **graphical** (geometric and/or trigonometric, e.g., law of sines and law of cosines) and **algebraic** (vector algebra,  $\hat{i} - \hat{j}$ ) solutions.



- 1/7** Determine the weight in newtons of a woman whose weight in pounds is 125 lb. Also, find her mass in slugs and in kilograms.
- 1/9** Compute the magnitude  $F$  of the force which the sun exerts on the earth. Perform the calculation first in pounds and then convert your result to newtons. Refer to Table D/2 for necessary physical quantities. Draw the force that acts on each body.