Review Questions # 1

Scientific Measurements

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1. What are the base units of distance, mass, and time in both the (SI) and (BE) systems of units respectively:

	Time	Distance	Mass
SI			
BE			

2. Derive the unit of the following quantities in both the (SI) and (BE).

	$\frac{Distance}{Time}$	$\frac{Distance \times Area}{Time}$	$\frac{Distance}{Time^2}$
SI			
BE			

3. Write the following quantities in scientific notation
   - 2056 m =.....
   - 65 μg =.....

4. Compute the height in inches of a women who is 157 cm tall (use the conversion factor: 1 $in = 2.54$ cm)

   .....

   .....

5. Convert the previous value into feet (use the conversion factor: 1 $ft = 30.5$ cm)

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6. What is the difference between a scalar and a vector

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7. Consider the following vectors
   - $\vec{A}$: 8 km, $east$
   - $\vec{B}$: 6 km, 30^o $north\ of\ east$
   - $\vec{C}$: 6 km, $north$
   - $\vec{D}$: 4 km, $west$

   (a) Find graphically the resultant $\vec{R} = \vec{A} + \vec{C}$ (magnitude and direction)

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   (b) Find graphically the difference $\vec{T} = \vec{A} - \vec{D}$ (magnitude and direction)

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   (c) Find graphically the components of $\vec{A}$ and $\vec{B}$ respectively

   .....

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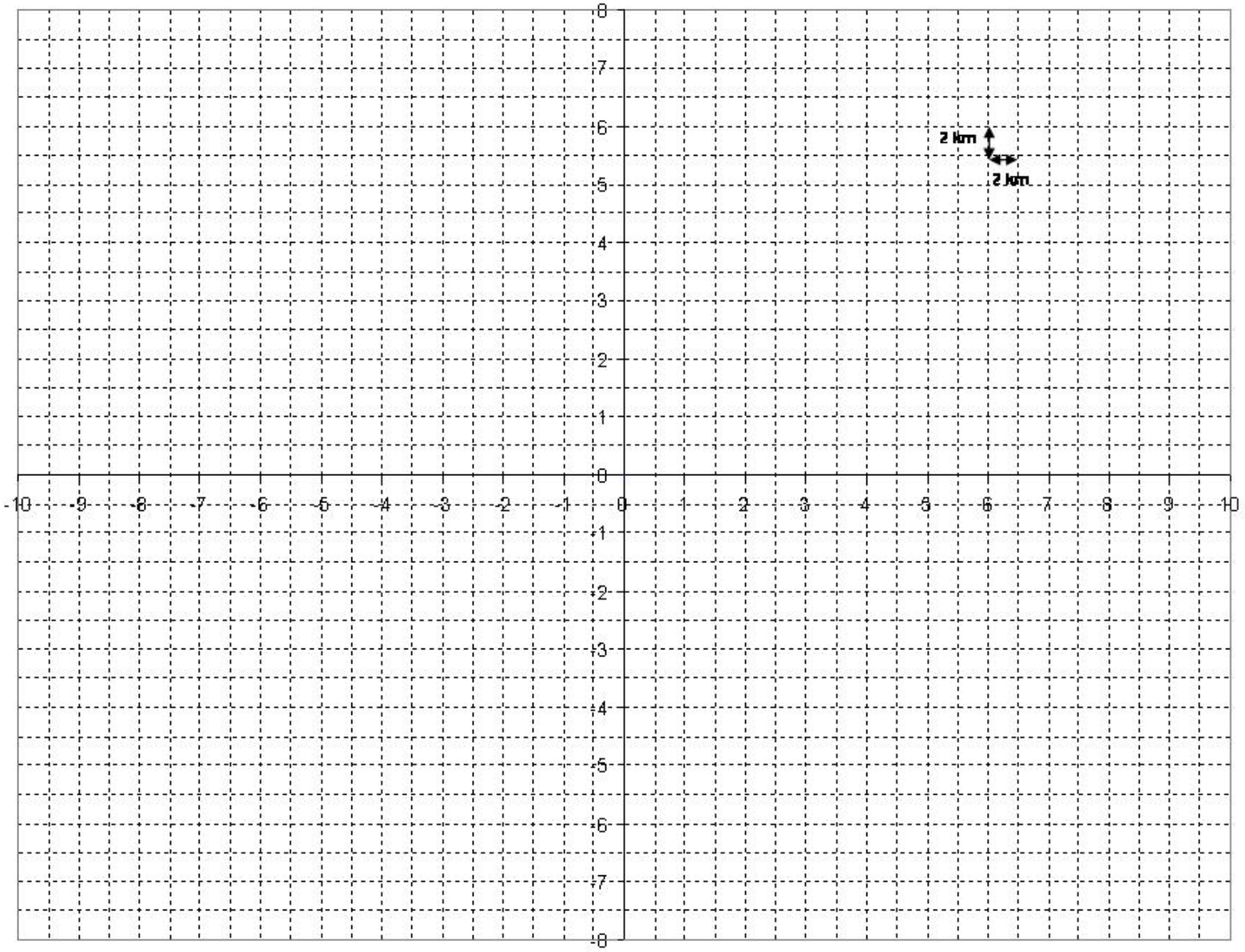
2 km
2 km