Name _____ Date _____

Honors Physics Vectors/Projectiles WS #2H

Period _____ Mrs. Nadworny

(25 pts)

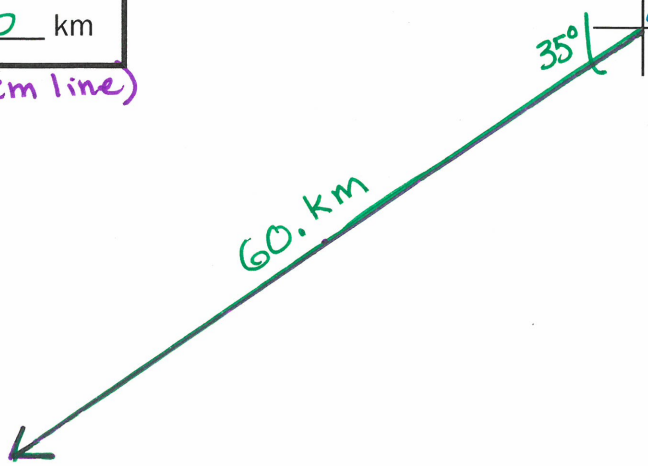
Drawing Vectors, Resultants, Non-Perpendicular Vectors

Directions – Draw the following vectors using the appropriate method learned in class.

1. A robot travels 60. km at 35^0 South of West

N
W E
S

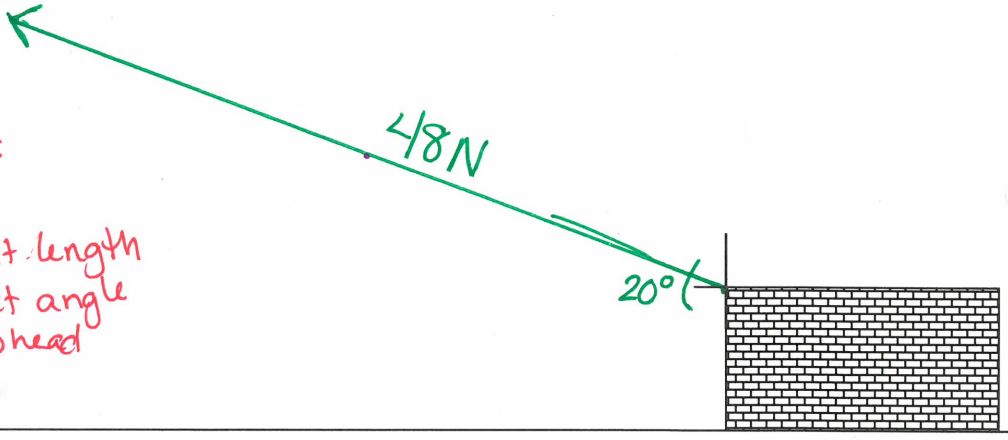
Scale: 1 cm = 6 km
(10. cm line)



Check for:
- scale
- correct length
- correct angle
- arrowhead
- label

2. 4. A box is dragged to the left with a force of 48 N at an angle of 20.^{0} above the horizon.

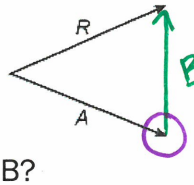
Scale: 1cm = 4.8N
(10cm line)



Check for:
- scale
- correct length
- correct angle
- arrowhead
- Label

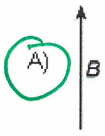
Continued on back

3. Vectors A and B have a resultant R. Vector A and resultant R are represented in the diagram below.



Draw them head-tail

Which vector best represents vector B?

A) 

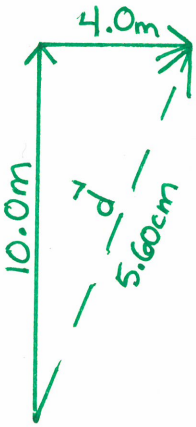
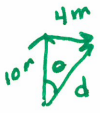
B)

C) 

D)

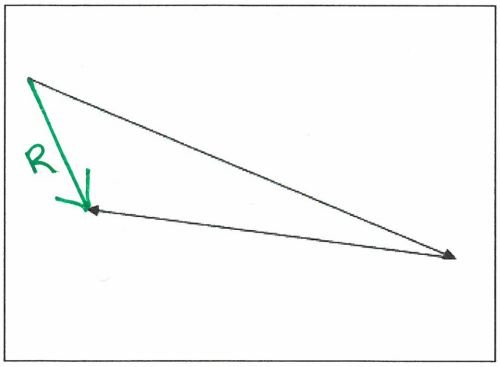
4. A frog hops 10.0 meters North along a river bank, and then hops 4.0 meters East to a lily pad. What is the displacement of the frog?

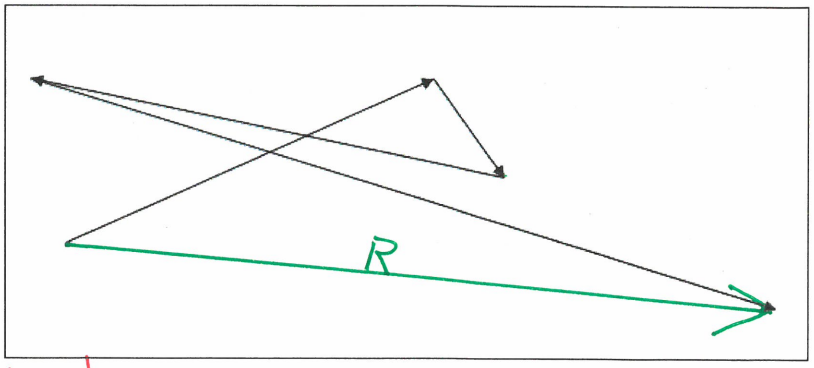
$\vec{d}$ = ?

Scale Method	Math Method
1cm = 2m   $5.60\text{cm}\left(\frac{2\text{m}}{1\text{cm}}\right)$ 11.2m 22.5° E of N	 $a^2+b^2=c^2$ $(10.0\text{m})^2+(4.0\text{m})^2$ 11m OR $d_1 = 10.0\text{m}$ $d_2 = 4.0\text{m}$ $\vec{d}$ = ? $\theta = \tan^{-1}(O/A)$ $= \tan^{-1}\left(\frac{4.0\text{m}}{10.0\text{m}}\right)$ $= 22°$ E of N
• scale • correct length • correct R • dimensional analysis • angle	• givens • 2 equations • 2 sub w/ units • 2 answers w/ correct s.f.

Answers in size order: 11, 22

Draw in the resultant for the following vectors. Label your resultant.





• arrowheads
• labels