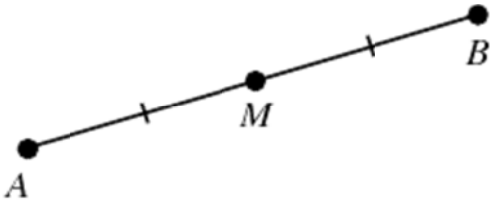
Name:_____ Period:_____ Date:_____

Geometry Honors: Midpoint and Distance Homework

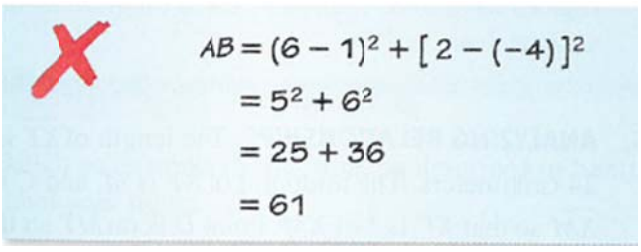
1. Find the length of MB if AM = 3x + 7 and AB = 14x – 2.



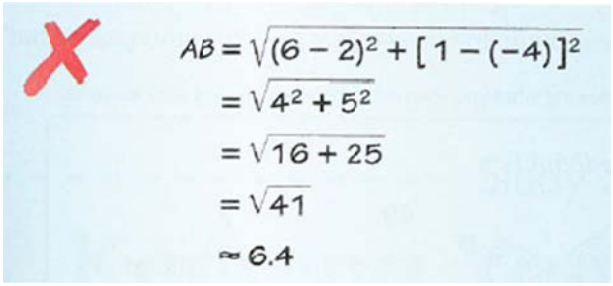
2. Find the distance between the points $(x^2, 2x^2)$ and $(4x^2, -2x^2)$ in terms of x.

3. If you set out to sail 57 miles south and 24 miles west, how much extra sailing did you do compared to if you sailed to directly (in a straight line) to your end location.

4. Indicate and correct the error for finding the distance between (6, 2) and (1, -4).

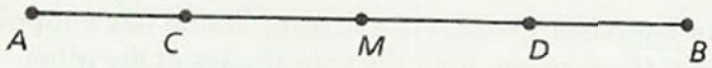


$$\begin{aligned} AB &= (6-1)^2 + [2-(-4)]^2 \\ &= 5^2 + 6^2 \\ &= 25 + 36 \\ &= 61 \end{aligned}$$



$$\begin{aligned} AB &= \sqrt{(6-2)^2 + [1-(-4)]^2} \\ &= \sqrt{4^2 + 5^2} \\ &= \sqrt{16 + 25} \\ &= \sqrt{41} \\ &\approx 6.4 \end{aligned}$$

5. **HOW DO YOU SEE IT?** $\overline{AB}$ contains midpoint M and points C and D, as shown. Compare the lengths. If you cannot draw a conclusion, write *impossible to tell*. Explain your reasoning.



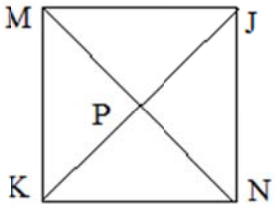
a. AM and MB

b. AC and MB

c. MC and MD

d. MB and DB

6. Given: P is the midpoint of $\overline{MN}$
$\overline{MN}$ bisects $\overline{KJ}$
Prove: $\overline{KP} \cong \overline{PM}$



Statements	Reasons

Also complete p. 37 1-8 and p. 504 1- 8.

Username: scevgeo

Password: ********