7.6 Partitions Homework
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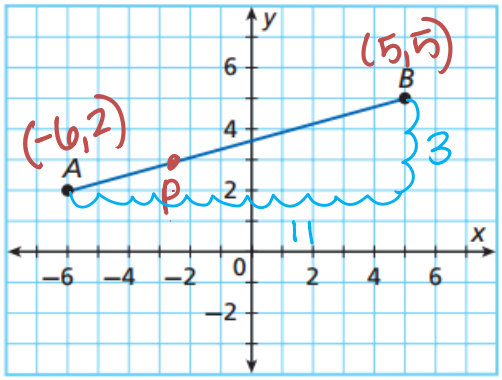
1. Find the point P along the directed line segment from point A to point B that divides the segment in the ratio 2 to 5.



① vector from A to B $\langle 11, 3\rangle$

② P is $\frac{2}{7}$ of the way between $\overline{AB}$

$\frac{2}{7}\langle 11, 3\rangle = \langle \frac{22}{7}, \frac{6}{7}\rangle$

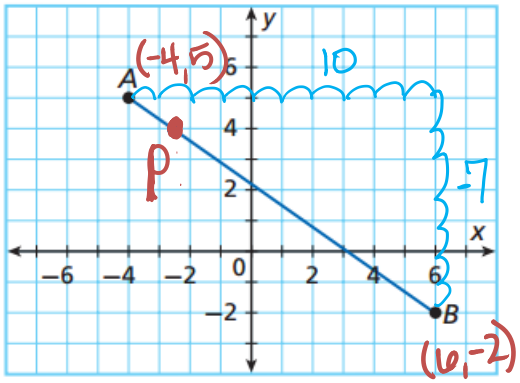
③ P is right $\frac{22}{7}$ units and up $\frac{6}{7}$ units from A.

$A\left(-\frac{42}{7}, \frac{14}{7}\right)$

$+\langle \frac{22}{7}, \frac{6}{7}\rangle$

$P\left(\frac{-20}{7}, \frac{20}{7}\right)$ or $P\left(-2\frac{6}{7}, 2\frac{6}{7}\right)$

2. Find the point P along the directed line segment from point A to point B that divides the segment in the ratio 1 to 6.



① vector from A to B is $\langle 10, -7\rangle$

② P is $\frac{1}{7}$ of the way b/w $\overline{AB}$

$\frac{1}{7}\langle 10, -7\rangle \Rightarrow \langle \frac{10}{7}, -1\rangle$

③ P is $\frac{10}{7}$ units to the right and 1 unit down from A.

so $A\left(-\frac{28}{7}, 5\right)$

$\langle \frac{10}{7}, -1\rangle$

$P\left(\frac{-18}{7}, 4\right)$ or $P\left(-2\frac{4}{7}, 4\right)$