7.6 Partitions Homework

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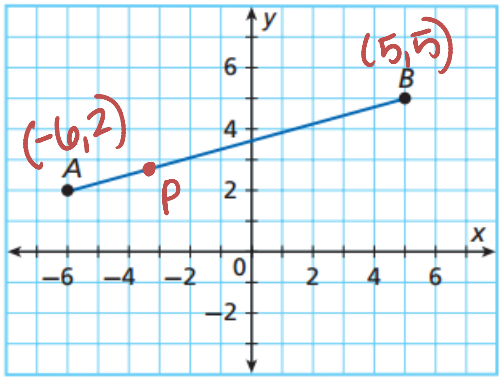
1. Find the point P along the directed line segment from point A to point B that divides the segment in the ratio 2 to 5.



① slope $= \frac{5-2}{5-(-6)} = \frac{3}{11}$ $\frac{\text{(rise)}}{\text{(run)}}$

② Point P is $\frac{2}{7}$ from point A to B.

③ Take $\frac{2}{7}$ of rise and run

rise $= \frac{2}{7}(3) = \frac{6}{7}$

run $= \frac{2}{7}(11) = \frac{22}{7} = 3\frac{1}{7}$

③ Find point P → $\frac{6}{7}$ up from A, $3\frac{1}{7}$ right of A

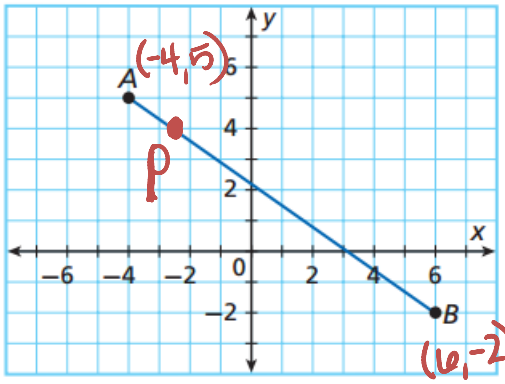
A(-6,2)

$P(-6+3\frac{1}{7}, 2+\frac{6}{7}) = P(-3\frac{1}{7}, 2\frac{6}{7})$

or

$P(-\frac{20}{7}, \frac{20}{7})$

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 slope $= \frac{-2-5}{6-(-4)} = \frac{-7}{10}$ $\left(\frac{\text{rise}}{\text{run}}\right)$

② Point P is $\frac{1}{7}$ away from A to B

③ Take $\frac{1}{7}$ of rise and run

rise $= \frac{1}{7}(-7) = -1$

run $= \frac{1}{7}(10) = \frac{10}{7} = 1\frac{3}{7}$

④ Point P is 1 unit down from A and $\frac{10}{7}$ right from A

A(-4,5)

$P(-4+1\frac{3}{7}, 5-1) = P(-\frac{18}{7}, 4)$