Name _____ Date_____ Section_____

PROBLEM SET 7-7R & 7-8L

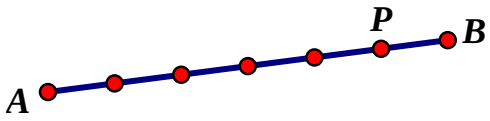
Directions: Assume that the points indicated in diagrams are marking equally spaced divisions of the line segments.

For questions 1-4, determine the **ratio** and the fraction of the directed line segment $\overline{AB}$ (initial point A) when partitioned by point P.

1.

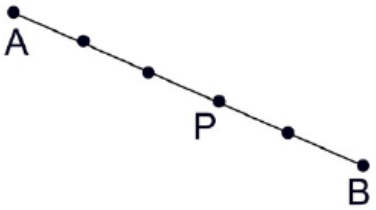
Ratio: ___:___ Fraction: ___

2.



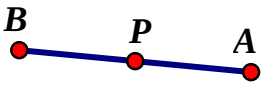
Ratio: ___:___ Fraction: ___

3.



Ratio: ___:___ Fraction: ___

4.

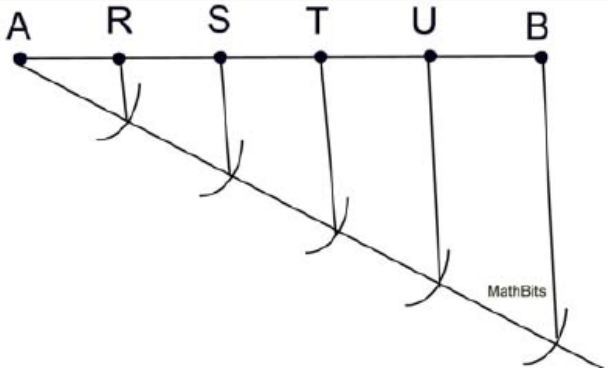


Ratio: ___:___ Fraction: ___

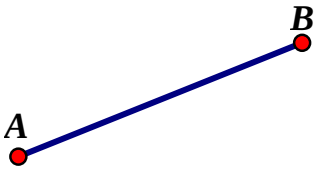
5. Draw a diagram illustrating a directed line segment $\overline{CD}$ partitioned by point P into a ratio of 3:4 (initial point C).

6. Draw a diagram illustrating a directed line segment $\overline{MN}$ partitioned by point P into a ratio of 3:1 (initial point M).

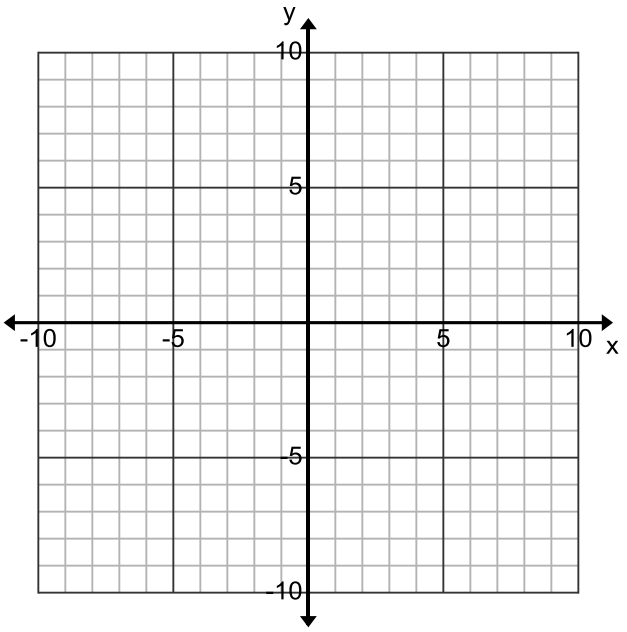
7. Directed segment $\overline{AB}$ is divided by construction into 5 equal segments. Which of the points divides $\overline{AB}$ segment in the ratio of 2 to 3?



8. Explain why $D_{A,\frac{2}{3}}$ results in a partition ratio of 2:1.



2. C is a point located on segment $\overline{AB}$ such that AC:CB = 4:1. If A(-2,4) and C(8,-1), find the coordinates of point B both graphically **and** algebraically (using the formula).



3. Given A(-4,-4) and B(0,8) on directed line segment $\overline{AB}$, find point P on the segment such that *AP* = 3*PB*.

4. A map shows a straight jungle path between two villages. As the rainy season approaches, the villages decide to establish two shelters such that the shelters divide the path into 3 equal parts. Find the coordinates of the points at which the rest stops should be built if the villages are located at (-3,-4) and (3,5). Show both a graphical **and** an algebraic solution with a sketch (can be on the graph).