Unit 12: Guided Notes
Partitioning segments

*Re-format for Next Year

Name: _____
Date: _____

. The Atlanta Zoo has a 100ft piece of bamboo to feed their pandas. The pandas are in 2 different areas. Area A has a total of 14 pandas, and area B has a total of 11 pandas. How much bamboo should each area get so that each panda has the same amount of bamboo?

Step 1: How much should each get? $14+11=25$ pandas $\rightarrow \frac{100\text{ ft}}{25\text{ p.}}$ $= 4$ ft per panda

Step 2: How much for each area?

A $\rightarrow 14(4) = 56$ ft B $\rightarrow 11(4) = 44$ ft

2. The Columbia Zoo has a 40 ft piece of bamboo to feed their pandas. They need to feed a group of 3 pandas and a group of 5 pandas. How much does each group get?

1.) $\frac{\text{Total bamboo}}{\text{total pandas}} = \frac{40\text{ ft}}{\underset{(3+5)}{8}} = 5$ ft

2.) A) $3(5) \rightarrow 15$ ft B) $5(5) \rightarrow 25$ ft

3. Divide a 20 ft segment into a 3:7 ratio.

1.) $\frac{20\text{ ft}}{(3+7)} = \frac{20\text{ ft}}{10\text{ ft}} = 2$ ft

2.) $3(2) : 7(2) \Rightarrow \boxed{6:14}$

$a:b = \frac{a}{b} = a$ (2)

4. Using the formula for partitioning a segment, divide a 20 ft segment into a 3:7 ratio.

A B

$\frac{a}{a+b}(\text{total length}) : \frac{b}{a+b}(\text{total length})$

$\frac{3}{10}(20) : \frac{7}{10}(20)$

$\boxed{6:14}$

5. Divide a 75 inch segment into a 2:3 ratio (use the 2 different methods).

Divide

PANDA METHOD:

$\frac{75}{5} \rightarrow 15$

Mult: A $(2 \cdot 15)$ B $3(15)$

30 : 45

FORMULA:

$\frac{2}{(2+3)}(75) : \frac{3}{(2+3)}(75)$ (total, total)

30 45

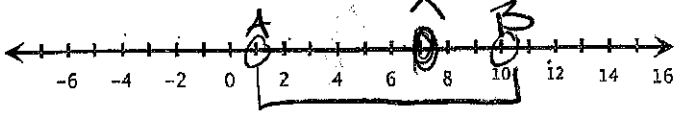
GSE Geometry 8 – Geometry & the Coordinate Plane 8.6 – Practice

Name: Key Date: _____

Partitioning Segments by a Ratio

Find the point, T, so that it partitions A to B:

1. 2:1 ratio. A is at 1, and B is at 10.

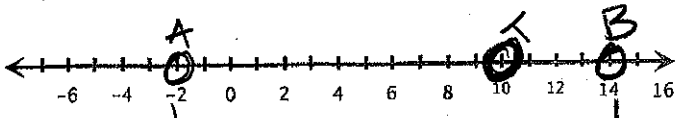


$\frac{2}{(1+2)}(10-1) + A$

$\frac{2}{3}(9) + 1$

$6+1 = 7$

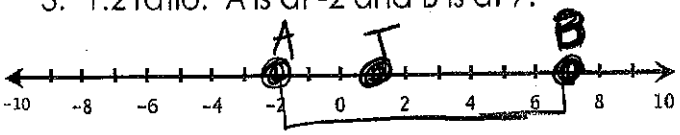
2. 3:1 ratio. A is at -2 and B is at 14.



$\frac{3}{4}(14+2) + (-2)$

$\frac{3}{4}(16) + -2 = 10$

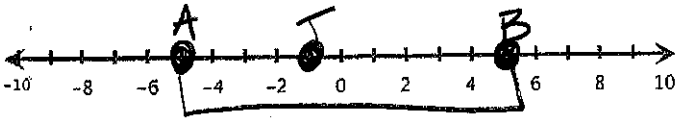
3. 1:2 ratio. A is at -2 and B is at 7.



$\frac{1}{3}(7+2) + -2$

$\frac{1}{3}(9) - 2 = 1$

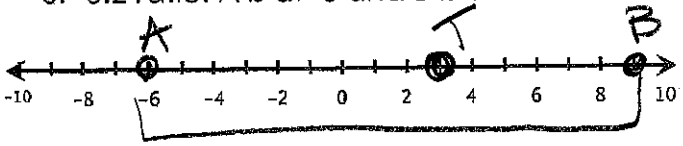
4. 2:3 ratio. A is at -5 and B is at 5.



$\frac{2}{5}(5+5) - 5$

$\frac{2}{5}(10) - 5 = -1$

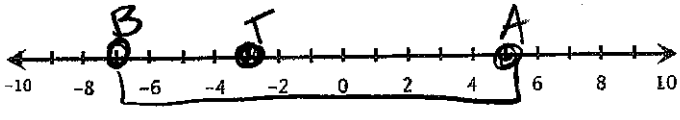
5. 3:2 ratio. A is at -6 and B is at 9.



$\frac{3}{5}(9+6) - 6$

$\frac{3}{5}(15) - 6 = 3$

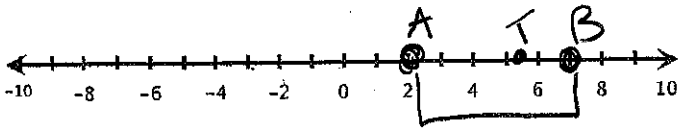
6. 2:1 ratio. A is at 5 and B is at -7.



$\frac{2}{3}(-7-5) + 5$

$\frac{2}{3}(-12) + 5 = -3$

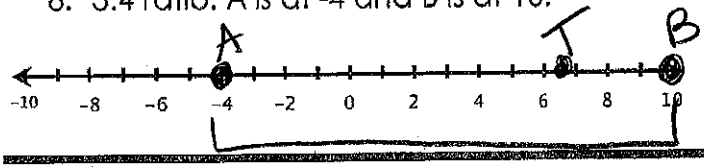
7. 2:3 ratio. A is at 2 and B is at 7.



$\frac{2}{3}(7-2) + 2$

$\frac{2}{3}(5) + 2 = 5.3$

8. 3:4 ratio. A is at -4 and B is at 10.



$\frac{3}{4}(10+4) - 4$

$\frac{3}{4}(14) - 4$

$\frac{21}{2} - 4 = 6.5$