Subdivide the given line segment into the requested ratio.

1. Find the point, P, that subdivides the directed line segment \overline{AB} into a 3 to 2 ratio.

$$A(3,4) ; B(13,-6)$$

2. Find the point, P, that subdivides the directed line segment \overline{AB} into a 1 to 4 ratio.

$$A(1,-7)$$
; $B(16,3)$

3. Find the point, P, that subdivides the directed line segment \overline{AB} into a 2 to 1 ratio.

$$A(-3,-2)$$
; $B(6,1)$

4. Find the point, P, that subdivides the directed line segment \overline{AB} into a 2 to 3 ratio.

$$A(-3,-3)$$
; $B(7,2)$

5. Find the point, P, that subdivides the directed line segment \overline{AB} into a 3 to 1 ratio.

$$A(6,-5)$$
; $B(-2,3)$

6. Find the point, P, that subdivides the directed line segment \overline{AB} into a 2 to 1 ratio.

$$A(-7,-2)$$
; $B(2,4)$

7. Find the point, P, that subdivides the directed line segment \overline{AB} into a 2 to 3 ratio.

$$A(-5,-2)$$
; $B(-5,8)$

8. Find the point, P, that subdivides the directed line segment \overline{AB} into a 1 to 2 ratio.

$$A(-2,5)$$
; $B(4,14)$

9. Find the point, P, that subdivides the directed line segment \overline{AB} into a 2 to 5 ratio.

$$A(-9,-5)$$
; $B(5,2)$

10. Find the point, P, that subdivides the directed line segment \overline{AB} into a 3 to 4 ratio.

$$A(2,-6)$$
; $B(-12,15)$

11. Find the point, P, that subdivides the directed line segment \overline{AB} into a 2 to 1 ratio.

$$A(9,6) ; B(-9,6)$$

12. Find the point, P, that subdivides the directed line segment \overline{AB} into a 2 to 3 ratio.

$$A(-3,-4)$$
; $B(7,-19)$