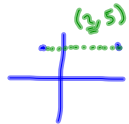


6. 23
 7. 44 8. 65
 9. 23 10. 15
 11. 13
 12. 9 should be subtracted from 14, not added; $BC = 14 - 9 = 5$.
 13. congruent
 14. not congruent
 15. not congruent
 16. 3 17. 7
 18. 12 19. 9
 20. Yes, since $FB = FC + CB$, then $FB > CB$; no, the relationship between AD and BC is not known.
 21. 10 22. 22 23. 20
 24. 32 25. 30 26. 42


Aug 31-11:12 AM


Warm Up

- Find a point between $(-3, 5)$ and $(7, 5)$. 
- Find the average of -11 and 5 . -3
- Solve: $3x + 5 = 5x - 9$
 $-3x \quad -7x$
 $5 = 2x - 9$
 $14 = 2x$ x=7

Aug 30-1:40 PM

1-3 Using Midpoint and Distance Formulas

Midpoint- 

Bisector- 

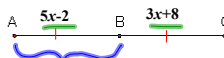
Midpoint Formula- $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

Distance Formula- $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

$a^2 + b^2 = c^2$

Sep 7 - 11:58 AM

Ex. 1 Point B is the midpoint of \overline{AC} . Find AB .



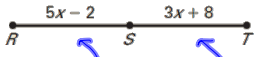
$$5x - 2 = 3x + 8$$

$$\begin{array}{r} 5x - 2 = 3x + 8 \\ -3x \quad -3x \\ \hline 2x - 2 = 8 \\ +2 \quad +2 \\ \hline 2x = 10 \\ \frac{2x}{2} = \frac{10}{2} \quad x = 5 \end{array}$$

$$\begin{array}{r} 5x - 2 \\ 5 \cdot 5 - 2 \\ \hline 23 \end{array}$$

Sep 7 - 12:00 PM

Ex. 2 Point S is the midpoint of \overline{RT} . Find ST .



$$5x - 2 = 3x + 8$$

$$\begin{array}{r} 5x - 2 = 3x + 8 \\ -3x \quad -3x \\ \hline 2x - 2 = 8 \\ +2 \quad +2 \\ \hline 2x = 10 \\ \frac{2x}{2} = \frac{10}{2} \quad x = 5 \end{array}$$

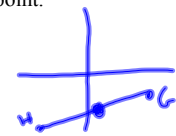
$$3 \cdot 5 + 8 = 23$$

$$5 \cdot 5 - 2 = 23$$

Sep 7 - 12:00 PM

Ex.3 The endpoints of \overline{GH} are $G(7, -2)$ and $H(-5, -6)$. Find the coordinates of the midpoint.

(1, -4)



Sep 7 - 1:43 PM

Ex. 4 The endpoints of \overline{AB} are $A(-3, 5)$ and $B(7, 10)$. Find the coordinates of the midpoint.

$(2, 7.5)$

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Ex. 5 \overline{AB} has endpoint $A(6, 3)$ and midpoint $M(9, 1)$. Find the coordinates of endpoint B .

$A(6, 3)$ $M(9, 1)$ $B(12, -1)$

Sep 7-7:38 AM

Ex. 6 \overline{AB} has endpoint $A(2, -3)$ and midpoint $M(5, 8)$. Find the coordinates of endpoint B .

$A(2, -3)$ $M(5, 8)$ $B(8, 19)$

Sep 7-7:38 AM

Ex. 7 What is the approximate length of \overline{PQ} with endpoints $P(2, 5)$ and $Q(-4, 8)$?

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$= \sqrt{(-6)^2 + (3)^2}$$

$$= \sqrt{36 + 9}$$

$$= \sqrt{45} \approx 6.7$$

$$\sqrt{9 \cdot 5} = 3\sqrt{5}$$

$6^2 + 3^2 = c^2$
 $36 + 9 = c^2$
 $45 = c^2$
 $\sqrt{45} = c \approx 6.7 = 3\sqrt{5}$

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Ex. 8 What is the approximate length of \overline{AB} with endpoints $A(3, 5)$ and $B(6, 1)$?

$$d = \sqrt{(6-3)^2 + (1-5)^2}$$

$$= \sqrt{3^2 + (-4)^2}$$

$$= \sqrt{9 + 16}$$

$$= \sqrt{25}$$

$$= 5$$

$4^2 + 3^2 = c^2$
 $16 + 9 = c^2$
 $25 = c^2$
 $5 = c$

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Ex. 9 The endpoints of two segments are given. Find each segment length. Tell whether the segments are congruent.

\overline{AB} $A(0, 2)$ $B(-3, 8)$

\overline{CD} $C(-2, 2)$ $D(0, -4)$

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Ex. 10 The endpoints of two segments are given. Find each segment length. Tell whether the segments are congruent.

$$\overline{EF} \quad E(1, 4) \quad F(5, 1)$$

$$\overline{GH} \quad G(-3, 1) \quad H(1, 6)$$

Practice

p.19

#3-33

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