

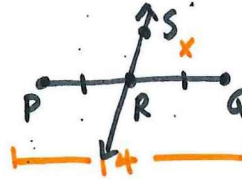
LESSON
1.3

Practice

For use with pages 15-22

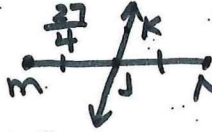
1. Line RS bisects \overline{PQ} at point R . Find RQ if $PQ = 14$ centimeters.

$PQ = 2(RQ)$
 $14 = 2(RQ)$
 $RQ = 7$



2. Line JK bisects \overline{MN} at point J . Find MN if $JM = 6\frac{3}{4}$ feet.

$MN = 2(JM)$
 $MN = 2(6\frac{3}{4})$
 $MN = \frac{27}{2}$
 $JM = \frac{27}{4}$



3. Point T bisects \overline{UV} . Find UV if $UT = 4\frac{1}{2}$ yards.

$UV = 2(UT)$
 $UV = 2(4\frac{1}{2})$
 $UV = 9$



4. Point C bisects \overline{AB} . Find CB if $AB = 14.8$ meters.

$AB = 2(CB)$
 $14.8 = 2(CB)$
 $CB = 7.4$



In the diagram, M is the midpoint of the segment. Find the indicated length.

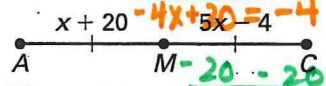
5. Find LN .

$LM = MN$
 $x + 9 = 4x - x$
 $9 = 3x$
 $x = 3$
 $LN = 2(LM)$
 $LN = 2(3 + 9)$
 $LN = 2(12)$
 $LN = 24$



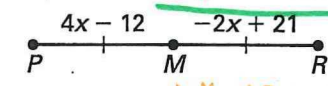
6. Find AM .

$AM = MC$
 $x + 20 = 5x - 4$
 $-4x = -24$
 $x = 6$
 $AM = 6 + 20$
 $AM = 26$



7. Find MR .

$PM = MR$
 $4x - 12 = -2x + 21$
 $6x = 33$
 $x = 33/6 = 11/2$
 $MR = 2(\frac{11}{2}) + 21$
 $MR = 11 + 21$
 $MR = 32$



Find the coordinates of the midpoint of the segment with the given endpoints.

8. $S(4, -1)$ and $T(6, 0)$

$m(\frac{4+6}{2}, \frac{-1+0}{2}) = (\frac{10}{2}, \frac{-1}{2})$

9. $L(4, 2)$ and $P(0, 2)$

$m(\frac{4+0}{2}, \frac{2+2}{2}) = (\frac{4}{2}, \frac{4}{2})$
 $m(2, 2)$

10. $H(-5, 5)$ and $I(7, 3)$

$m(\frac{-5+7}{2}, \frac{5+3}{2}) = (\frac{2}{2}, \frac{8}{2})$
 $m(1, 4)$

11. $G(-2, -8)$ and $H(-3, -12)$

$m(\frac{-2+(-3)}{2}, \frac{-8+(-12)}{2}) = (\frac{-5}{2}, \frac{-20}{2})$
 $m(\frac{-5}{2}, -10)$

Use the given endpoint R and midpoint M of \overline{RS} to find the coordinates of the other endpoint S .

12. $R(6, 0), M(0, 2)$

$-6 < \frac{R(6, 0)}{M(0, 2)} > +2$
 $-6 < S(-6, 4) > +2$

13. $R(3, 4), M(3, -2)$

$+0 < \frac{R(3, 4)}{M(3, -2)} > -4$
 $+0 < S(3, -8) > -4$

14. $R(-3, -2), M(-1, -8)$

$+2 < \frac{R(-3, -2)}{M(-1, -8)} > -6$
 $+2 < S(1, -14) > -6$

15. $R(11, -5), M(-4, -4)$

$-15 < \frac{R(11, -5)}{M(-4, -4)} > +1$
 $-15 < S(-19, -3) > +1$

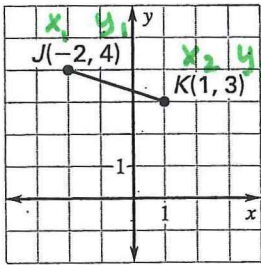
LESSON 1.3

Practice *continued*
For use with pages 15-22

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

Find the length of the segment. Round to the nearest tenth of a unit.

16.

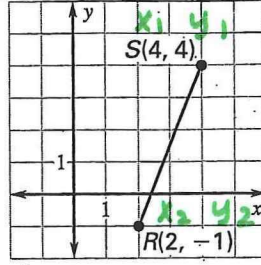


$$JK = \sqrt{(1 - (-2))^2 + (3 - 4)^2}$$

$$JK = \sqrt{(3)^2 + (-1)^2}$$

$$JK = \sqrt{9 + 1}$$

$$JK = \sqrt{10}$$



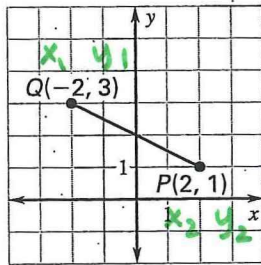
$$SR = \sqrt{(2 - 4)^2 + (-1 - 4)^2}$$

$$SR = \sqrt{(-2)^2 + (-5)^2}$$

$$SR = \sqrt{4 + 25}$$

$$SR = \sqrt{29}$$

18.

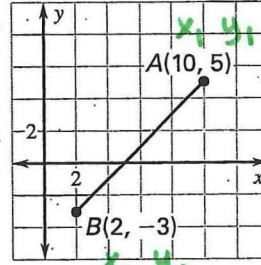


$$QP = \sqrt{(2 - (-2))^2 + (1 - 3)^2}$$

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

$$QP = \sqrt{16 + 4}$$

$$QP = \sqrt{20} = 2\sqrt{5}$$



$$AB = \sqrt{(2 - 10)^2 + (-3 - 5)^2}$$

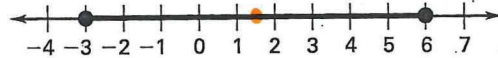
$$AB = \sqrt{(-8)^2 + (-8)^2}$$

$$AB = \sqrt{64 + 64}$$

$$AB = \sqrt{128} = 8\sqrt{2}$$

Find the length of the segment. Then find the coordinates of the midpoint of the segment.

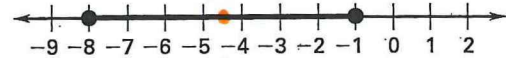
20.



$$d = |6 - (-3)| = 9$$

$$m = \frac{-3 + 6}{2} = \frac{3}{2} \text{ or } 1.5$$

21.

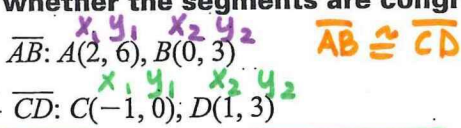


$$d = |-1 - (-8)| = 7$$

$$m = \frac{-8 + (-1)}{2} = \frac{-9}{2} \text{ or } -4.5$$

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

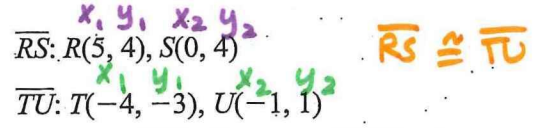
22.



$$AB = \sqrt{(0 - 2)^2 + (3 - 6)^2} = \sqrt{4 + 9} = \sqrt{13}$$

$$CD = \sqrt{(-1 - 1)^2 + (3 - 0)^2} = \sqrt{4 + 9} = \sqrt{13}$$

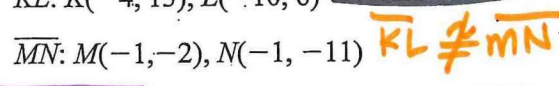
23.



$$RS = \sqrt{(0 - 5)^2 + (4 - 4)^2} = \sqrt{25 + 0} = 5$$

$$TU = \sqrt{(-1 - (-4))^2 + (1 - (-3))^2} = \sqrt{9 + 16} = \sqrt{25} = 5$$

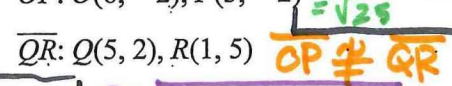
24.



$$KL = \sqrt{(-10 - (-4))^2 + (6 - 13)^2} = \sqrt{36 + 49} = \sqrt{85}$$

$$MN = \sqrt{(-1 - (-1))^2 + (-11 - (-2))^2} = \sqrt{0 + 81} = 9$$

25.



$$OP = \sqrt{(3 - 6)^2 + (-2 - (-2))^2} = \sqrt{9 + 0} = 3$$

$$QR = \sqrt{(1 - 5)^2 + (5 - 2)^2} = \sqrt{16 + 9} = 5$$