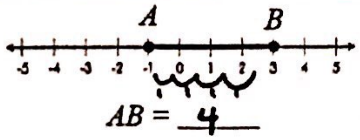
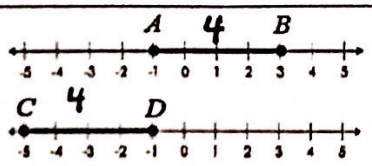
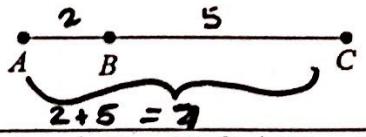
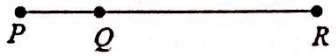
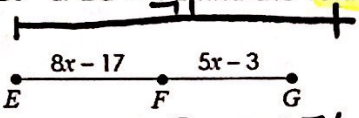
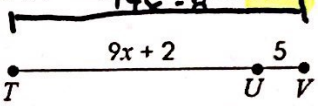
| Main Ideas/Questions | Notes/Examples | 1.3 Measuring Segments |
|---|---|---|
| **Measuring Segments** | The distance between two points A and B can be written as the length of $\overline{AB}$ or $AB$. |   $AB = 4$ |
| **Congruent Segments** | If $AB = CD$, then the segments are congruent. This is written as $\overline{AB} \cong \overline{CD}$. |   |
| **Segment Addition Postulate** | If A, B, and C are collinear points and B is between A and C, then $AB + BC = AC$. |   |
| **Examples** | **Use the diagram below for questions 1 and 2.**   | **1.** If $PQ = 9$ and $QR = 28$, find $PR$. $9 + 28 = 37$ |
| | | **2.** If $QR = 17$ and $PR = 21$, find $PQ$. $21 - 17 = 4$ |

**3.** If $EG = 71$, find the value of $x$.




$8x - 17 + 5x - 3 = 71$
$13x - 20 = 71$
$13x = 91$
$x = 7$

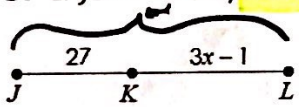
**4.** If $TV = 14x - 8$, find $TU$.




$9x + 2 + 5 = 14x - 8$
$9x + 7 = 14x - 8$
$15 = 5x$
$3 = x$

$TU = 9(3) + 2$
$= 27 + 2$
$= 29$

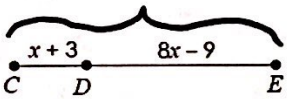
**5.** If $JL = 5x + 2$, find $JL$.




$27 + 3x - 1 = 5x + 2$
$3x + 26 = 5x + 2$
$24 = 2x$
$12 = x$

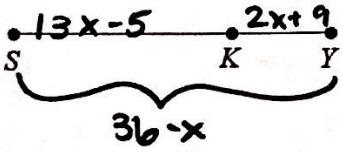
$JL = 5(12) + 2$
$= 60 + 2$
$= 62$

**6.** If $CE = 7x + 4$, find the value of $x$.




$x + 3 + 8x - 9 = 7x + 4$
$9x - 6 = 7x + 4$
$2x = 10$
$x = 5$

**7.** If $SK = 13x - 5$, $KY = 2x + 9$, and $SY = 36 - x$, find each value.




$13x - 5 + 2x + 9 = 36 - x$
$15x + 4 = 36 - x$
$16x = 32$
$x = 2$

$SK = 13(2) - 5$
$26 - 5$
$21$

$KY = 2(2) + 9$
$4 + 9$
$13$

$SY = 36 - 2$
$34$

$x = 2$
$SK = 21$
$KY = 13$
$SY = 34$

add the parts to equal the total
part + part = total