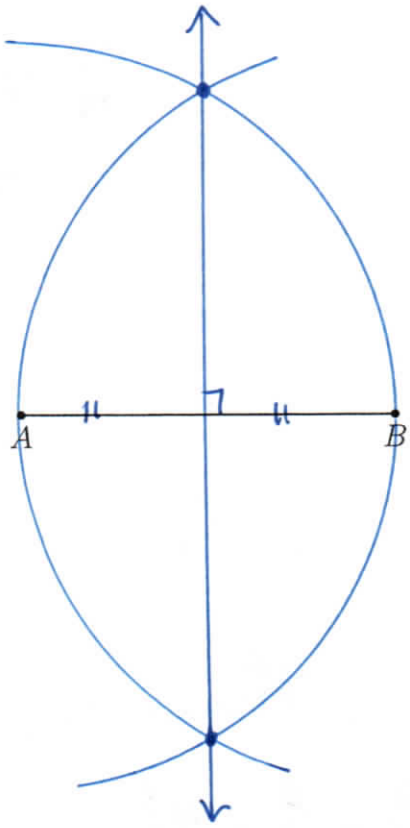
12

Name: Solutions

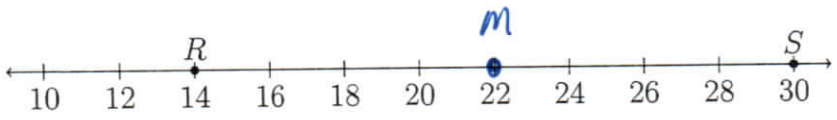
2.5 Pop Quiz: Segment & Area Calculations

1. Complete the construction of a perpendicular bisector of $\overline{AB}$.



3

2. Given $\overleftrightarrow{RS}$ as shown on the number line.



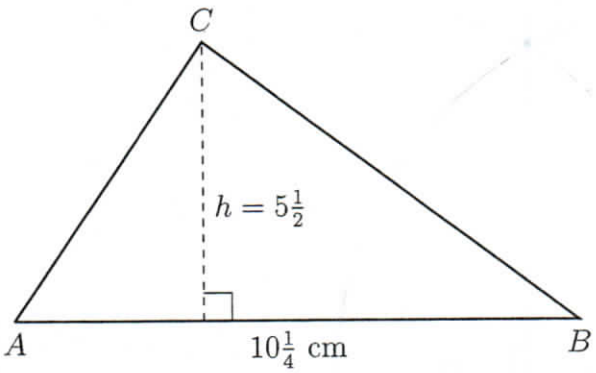
2

Mark and label the point M that bisects $\overline{RS}$.

$$m = 14 + \frac{30-14}{2}$$
$$= 22$$

5

3. Find the area of $\triangle ABC$. The altitude h of the triangle is $5\frac{1}{2}$ centimeters and the base $AB = 10\frac{1}{4}$ cm. (diagram not to scale)



$A = \frac{1}{2}\left(10\frac{1}{4}\right)\left(5\frac{1}{2}\right)$

$= 28.1875$

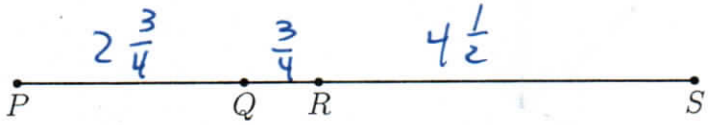
or

$\frac{451}{16}$ or $\frac{3}{16}$

2

4. Given $\overline{PQRS}$, $PQ = 2\frac{3}{4}$, $QR = \frac{3}{4}$, and $RS = 4\frac{1}{2}$. (diagram not to scale)

Find PS.

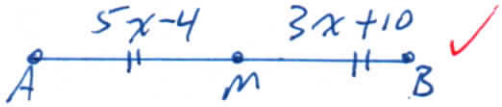


$PS = 2\frac{3}{4} + \frac{3}{4} + 4\frac{1}{2}$

$= 8$

1

5. Given that M is the midpoint of $\overline{AB}$. $AM = 5x - 4$, $BM = 3x + 10$. Find AB. Complete all the steps for full credit (including a fully-labeled drawing and the check)



$5x - 4 = 3x + 10$

$2x = 14$

$x = 7$ ✓

$AM = 5(7) - 4$

$= 31$

$BM = 3(7) + 10$

$= 31$

$31 = 31$ ✓

$AB = 31 + 31 = 62$ ✓

4

7