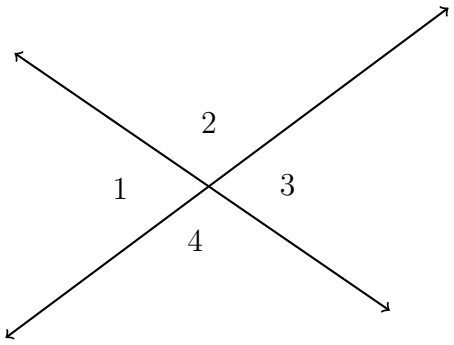
3.3 Volume of a prism

1. Do Now: As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$.



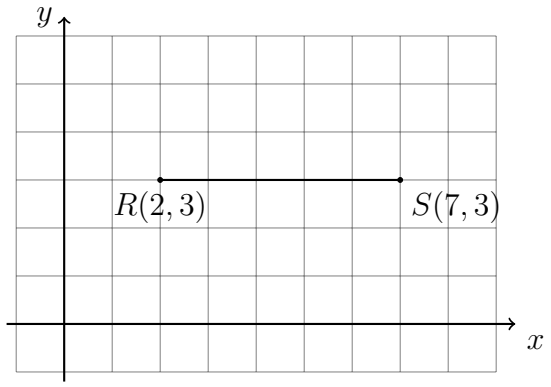
   (a) Which angle is opposite $\angle 1$? _____

   (b) Name an angle that is adjacent to $\angle 4$. _____

   (c) True or false, $\angle 2$ and $\angle 4$ are vertical angles. _____

2. Do Now: The horizontal line segment $\overline{RS}$ is plotted on the coordinate plane with $R(2, 3)$ and $S(7, 3)$.

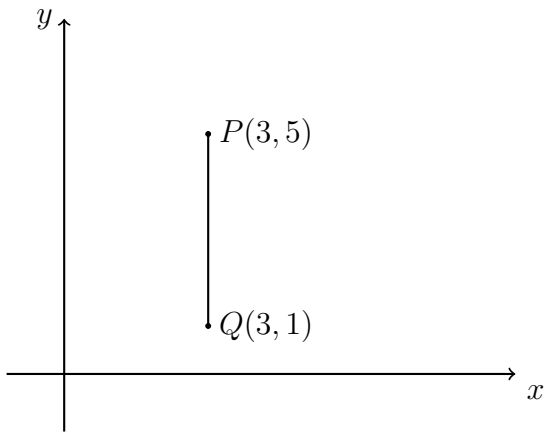
   Find length RS, showing the calculation.



3. Do Now: The vertical line segment $\overline{PQ}$ is plotted on the coordinate plane with $P(3, 5)$ and $Q(3, 1)$.

   Find the length PQ.

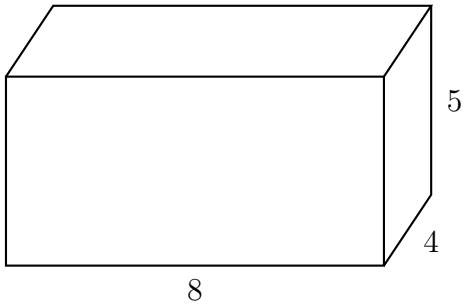
   Show the calculation, including the absolute value bars.



4. Take notes: The volume of a box (rectanglar prism) is the product of its length, width, and height.

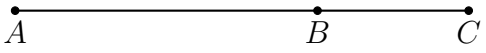
$$V = l \times w \times h$$

Example: Find the volume of a box with a length of 8 centimeters, a depth of 4 cm, and a height of 5 cm. Show the calculation.

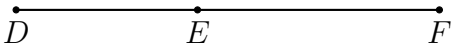


5. Find the volume of a box (rectanglar prism) having a length of 12 inches, a width of 6 inches, and a height of 5 inches. Show the calculation.

6. Given $\overline{ABC}$, $AB = 84$, $AC = 116$.
   Find BC.



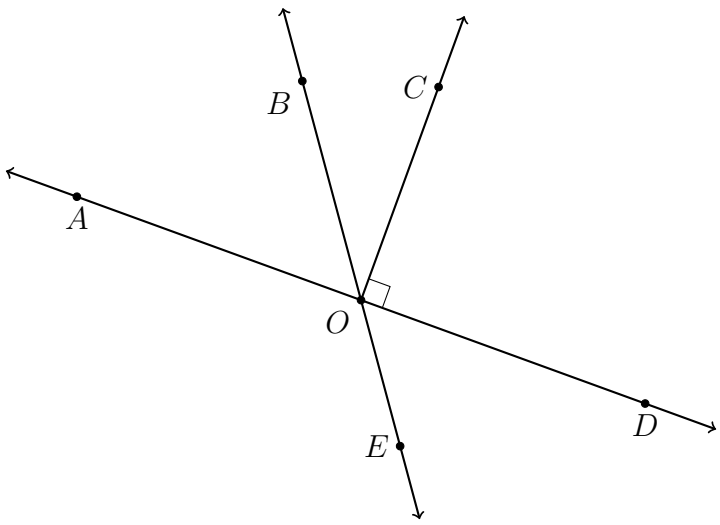
7. Given $\overline{DEF}$, $DE = 3\frac{1}{3}$, and $EF = 4\frac{1}{6}$.
   Find DF.



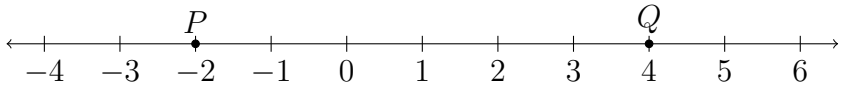
8. Answer based on the diagram below.

(a) Name an angle that is supplementary to $\angle AOB$: _____

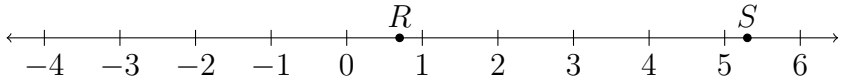
(b) Name an angle that is complementary to $\angle DOE$: _____



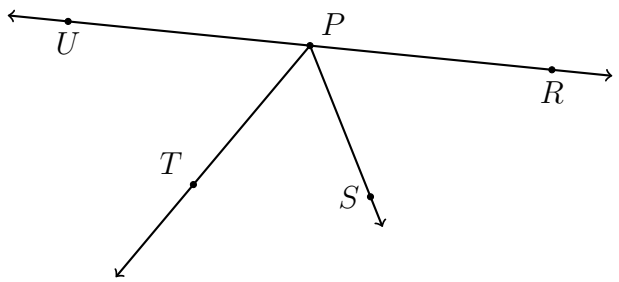
9. Given $\overleftrightarrow{PQ}$ as shown on the number line. Find PQ.



10. Given $\overleftrightarrow{RS}$, with $R = 0.7$ and $S = 5.3$. Find RS, showing the formula.



11. Given the situation in the diagram, answer each question. Circle True or False.



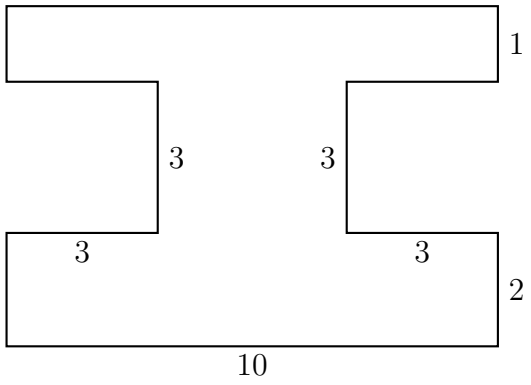
(a) True or False: $\overrightarrow{RP}$ and $\overrightarrow{UP}$ are opposite rays.

(b) True or False: $\angle TPR$ is supplementary to $\angle TPU$.

(c) True or False: $\angle RPS$ and $\angle TPS$ are complementary angles.

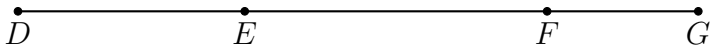
(d) True or False: $\angle RPS$ and $\angle TPU$ are vertical angles.

12. The shape shown below is composed of straight lines and right angles, with some lengths as marked. Find the perimeter of the figure. Show your work.



13. Given $\overline{DEFG}$, $DE = 1\frac{2}{5}$, $EF = 2\frac{3}{10}$, and $FG = \frac{4}{5}$. (diagram not to scale)

Find DG, expressed as a fraction, not a decimal.



14. Given the rectangle $ABCD$ shown below, with $AB = 6\frac{1}{3}$ and $BC = 2\frac{1}{2}$. Find the area of the rectangle, expressing your result as a fraction.