BE - Geometry | Wednesday 9-29-10

① Find the distance between $(0, -3)$ and $(1, 0)$

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

$$d^2 = (0 + 3)^2 + (1 - 0)^2$$

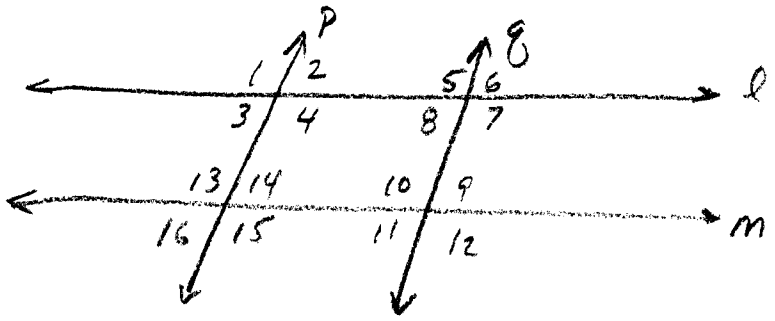
$$d^2 = 9 + 1$$

$$d^2 = 10$$

$$\boxed{d = \sqrt{10}} \quad \sim 3.16$$

Homework Review – Pg 154-156 #4-7, 11, 38, 39

For 4→7:



④ $\angle 16 \cong \angle 3$ Corr. $\angle$s $\cong$

⑤ $\angle 4 \cong \angle 13$ Alt. int $\angle$s $\cong$

⑥ $m\angle 14 + m\angle 10 = 180$ Consec. int $\angle$s supp.

⑦ $\angle 1 \cong \angle 7$ Alt ext. $\angle$s $\cong$

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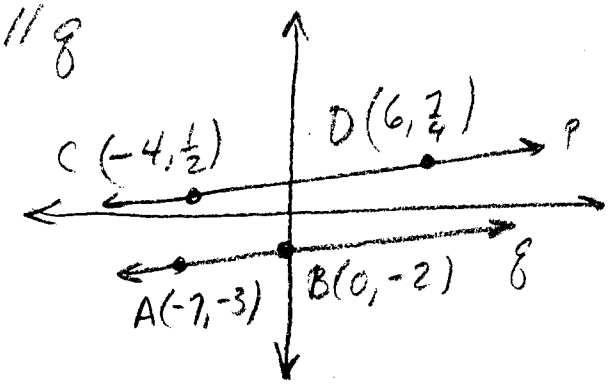
⑪ Is $P \parallel Q$



Slope of $\overleftrightarrow{P} \Rightarrow \dfrac{\frac{7}{4} - \frac{2}{4}}{6+4} = \dfrac{\frac{5}{4}}{10} = \dfrac{5}{40} = \dfrac{1}{8}$

Slope of $Q \Rightarrow \dfrac{-2+3}{0+7} = \dfrac{1}{7}$

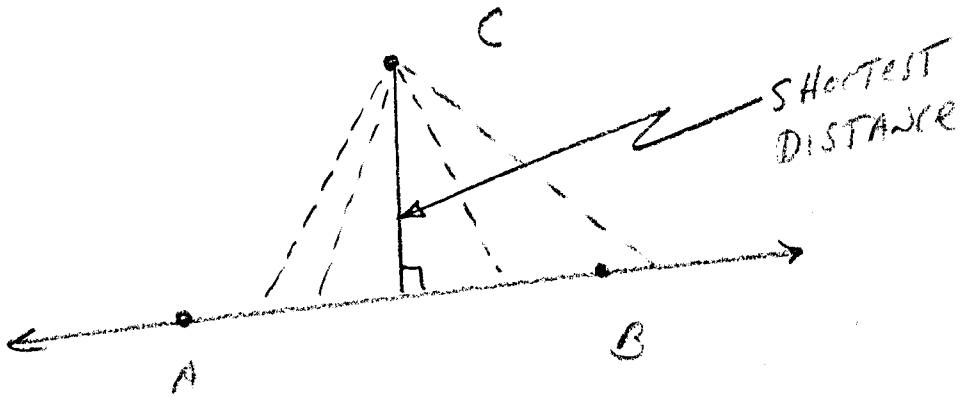
$\frac{1}{8} \neq \frac{1}{7}$ ∴ NOT PARALLEL

(38) m of $\overleftrightarrow{AB} \Rightarrow \dfrac{2}{8} = \dfrac{1}{4}$
m of $\overleftrightarrow{CD} \Rightarrow \dfrac{1}{4}$
∴ $\frac{1}{4} = \frac{1}{4}$ ∴ lines parallel

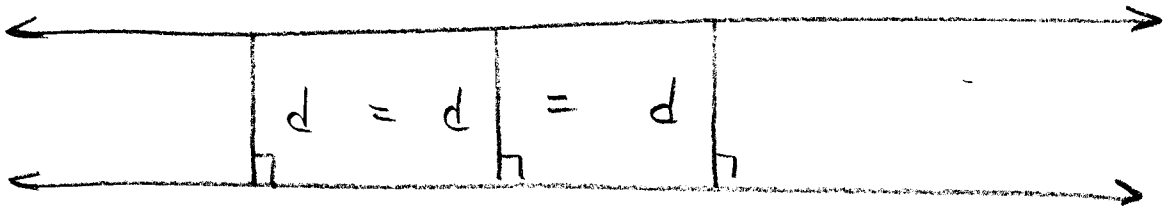
(39) m of $\overleftrightarrow{CD} \Rightarrow \dfrac{-.3}{1.5} = -\dfrac{1}{5}$
m of $\overleftrightarrow{AB} \Rightarrow -\dfrac{.5}{3} = -\dfrac{1}{6}$
$-\frac{1}{5} \neq -\frac{1}{6}$ ∴ NOT ∥

Ch 3-6 Perpendiculars and Distance

Distance Between a Point and a Line

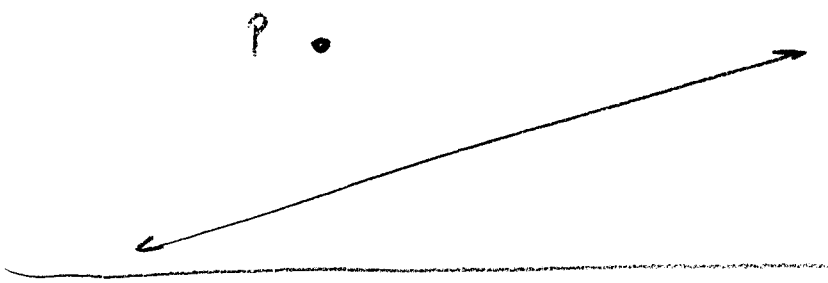


The distance from a line to a point not on the line is the length of the segment perpendicular to the line from the point.

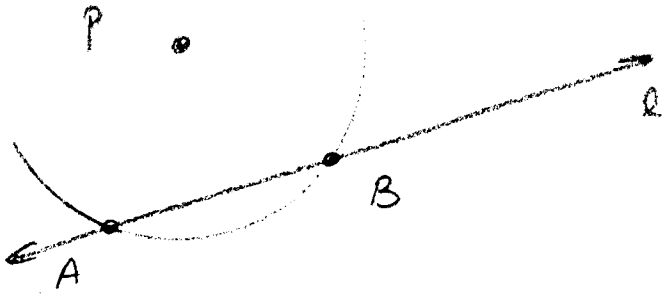


The distance between parallel lines is constant (the same).

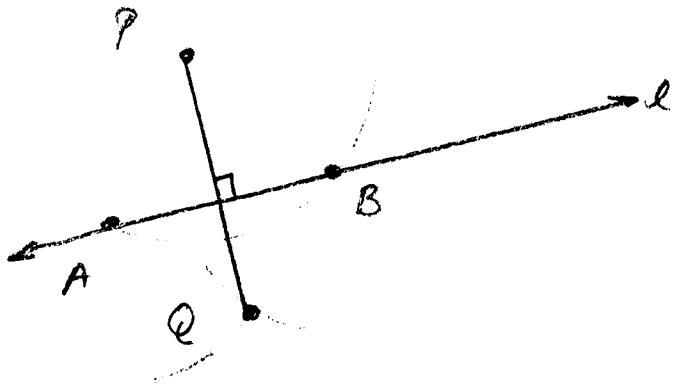
Construct a Perpendicular Segment
Page 160



Given line ℓ and point P



Draw an arc from P big enough to cross ℓ in 2 places, label A, B



Put point at A and draw arc below ℓ, any compass width $> \frac{1}{2}\overline{AB}$

Use same setting, put point at B, draw intersecting arc. Label Q

Draw $\overline{PQ}$