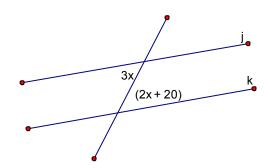
3-3 Proving Lines Parallel

<u>Recall</u>: What is the *converse* of the conditional statement "If today is September 23 then it is the first day of autumn"?

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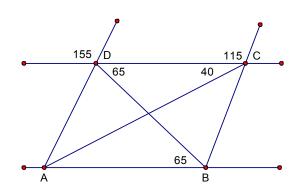
EX 1) Find the value of x that makes $j \parallel k$.



EX 2) Use the figure to the right to answer the following questions. Justify your answer.

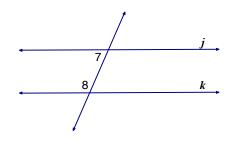
a) Is
$$\overrightarrow{AB} \parallel \overrightarrow{DC}$$
?

b) Is
$$\overrightarrow{BC} \parallel \overrightarrow{AD}$$
?



EX 3) Given: $m \angle 7 = 125^{\circ}$, $m \angle 8 = 55^{\circ}$

Prove: $j \parallel k$

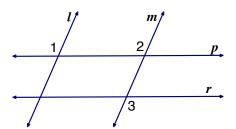


Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

EX 4) Given: $l \parallel m$, $\angle 1 \cong \angle 3$

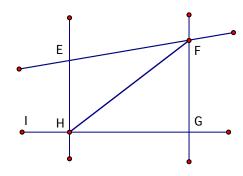
Statement	Reason
1.	1.
2.	2.

Prove: $r \parallel p$



3.	3.
4.	4.
5	5

EX 5) Given: $\angle EHF \cong \angle HFG$, $\overrightarrow{FG} \perp \overrightarrow{GH}$ Prove: $\overrightarrow{EH} \perp \overrightarrow{GH}$



Statement Reason

EX 6) Does the information given in the diagram allow you to conclude that $a \parallel b$? *Explain*.

