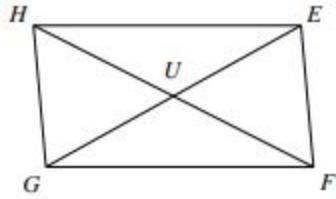
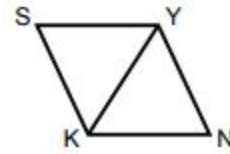


10. Given $FH = 41$ and $UH = 9x - 4$,
find x .

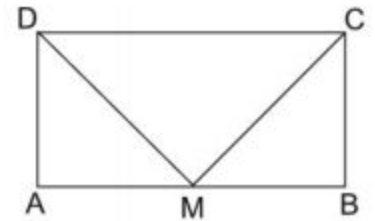
solve x .



11. Given $m\angle KYN = 36$, $m\angle KSY = 74$, and
 $m\angle SYK = 11x + 26$,

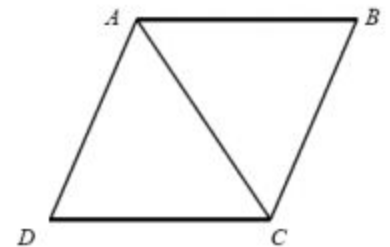


12. Given: ABCD is a rectangle, M is the midpoint of \overline{AB}
Prove: $\overline{DM} \cong \overline{CM}$



Statement:	Reason:
1. Rectangle ABCD	1. Given
2. M is the midpoint of \overline{AB}	2. Given
3. $\overline{AM} \cong \underline{\hspace{2cm}}$	3.
4. $\overline{DA} \cong \underline{\hspace{2cm}}$	4.
5. $\angle A = \underline{\hspace{2cm}} = 90^\circ$	5.
6.	6. SAS
7. $\overline{DM} \cong \overline{CM}$	7.

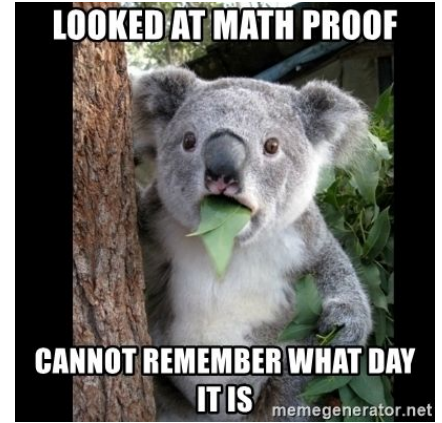
13. Given: ABCD is a parallelogram
Prove: $\triangle DAC \cong \triangle BCA$



Statement:	Reason:
1. Parallelogram ABCD	1. Given
2. $\angle D \cong \underline{\hspace{2cm}}$	2.
3. $\angle BAC \cong \underline{\hspace{2cm}}$	3.
4.	4. Reflexive Property
5. $\triangle DAC \cong \triangle BCA$	5.

Name _____

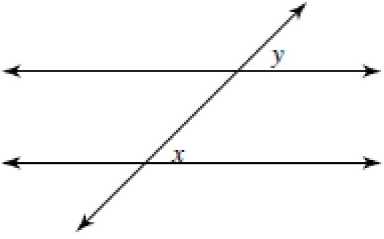
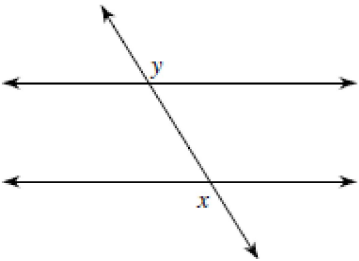
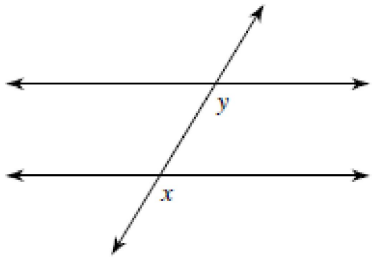
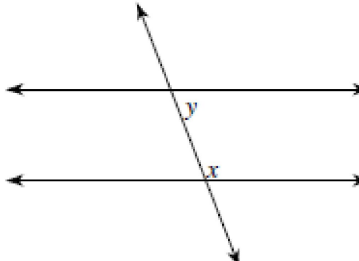
Math 3 Unit 5: Reasoning With Geometry



March 19 <ul style="list-style-type: none">• Geometric properties HW: worksheet 5.1	March 20 <ul style="list-style-type: none">• Proofs with lines and triangles HW: worksheet 5.2	March 21 <ul style="list-style-type: none">• Properties of parallelograms HW: worksheet 5.3	March 22 <ul style="list-style-type: none">• Proofs with parallelograms HW: worksheet 5.4	March 23 <ul style="list-style-type: none">• Properties of quadrilaterals HW: worksheet 5.5
March 26 <ul style="list-style-type: none">• Proofs with quadrilaterals HW: worksheet 5.6	March 27 <ul style="list-style-type: none">• Review for test HW: finish review	March 28 <ul style="list-style-type: none">• TEST!!	March 29 <ul style="list-style-type: none">• Piecewise functions (Yes, Myers will be teaching on this day. Are you really surprised?)	March 30 A meme featuring a young girl with pigtails holding a sign that says "Spring Break". The text at the top reads "ERMAHGERD" and the text at the bottom reads "SPRING BREAK". The source "memegenerator.net" is visible in the bottom right corner.

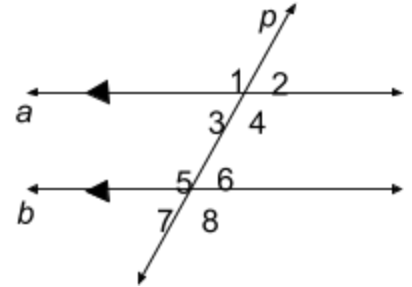
5.1 - Geometric Properties

Name each of the following types of angles. Then, state whether they are congruent or supplementary.

<p>1)</p> 	<p>Name:</p> <p>Congruent or Supplementary</p>	<p>2)</p> 	<p>Name:</p> <p>Congruent or Supplementary</p>
<p>3)</p> 	<p>Name:</p> <p>Congruent or Supplementary</p>	<p>4)</p> 	<p>Name:</p> <p>Congruent or Supplementary</p>

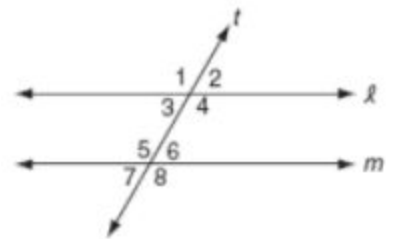
For # 5 – 9, $a \parallel b$ and p is a transversal. Fill in the blanks describing the angle relationships with regard to $\angle 3$.

5. $\angle 3$ and \angle _____ are a linear pair
6. $\angle 3$ and \angle _____ are vertical angles
7. $\angle 3$ and \angle _____ are corresponding angles
8. $\angle 3$ and \angle _____ are alternate interior angles
9. $\angle 3$ and \angle _____ are consecutive interior angles



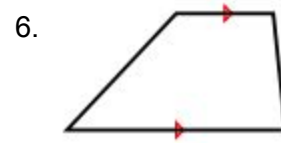
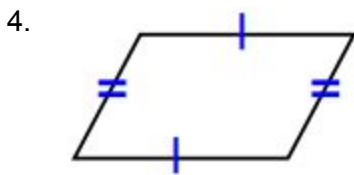
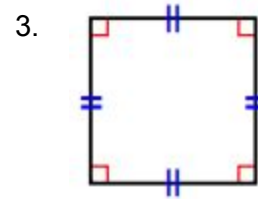
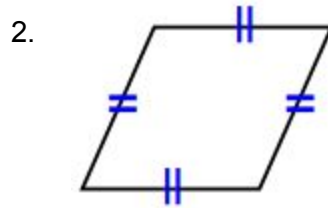
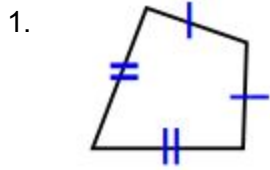
10. In the accompanying diagram, line l is parallel to line m , and line t is a transversal. Which must be a true statement?

- A $m\angle 1 + m\angle 4 = 180$ B $m\angle 3 + m\angle 6 = 180$
 C $m\angle 1 + m\angle 8 = 180$ D $m\angle 2 + m\angle 5 = 180$



5.6 - Proofs with Quadrilaterals

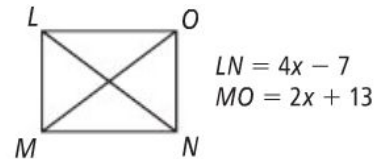
For # 1 – 5, use the given notation to identify the type of quadrilateral shown. Explain how you know.



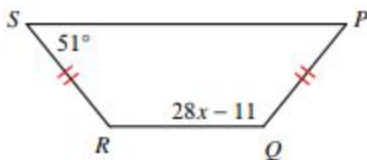
6. Given $KM = 22$ and $JL = 5x + 2$, solve for x .



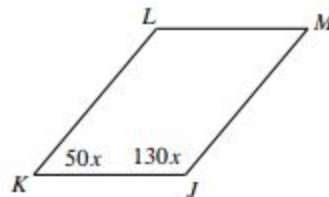
7. Given that LMNO is a rectangle, find the length of LN.



8. Solve for x .

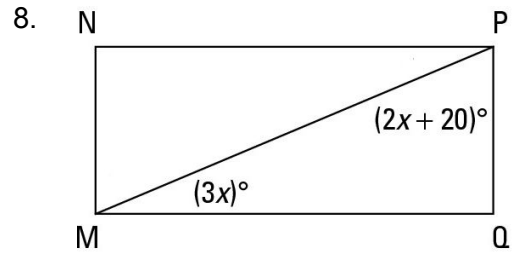
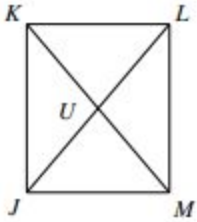


9. Find $\angle M$.

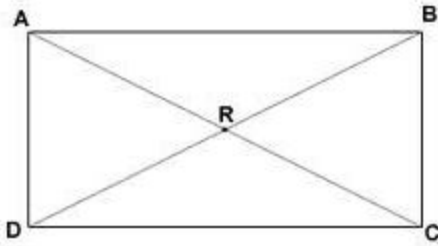


For questions #7 – 9, find x given that each figure is a rectangle.

7. $KM = 5x - 2$ and $JL = 2x + 16$

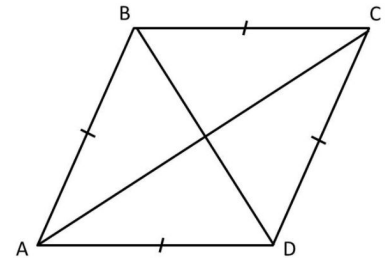


9. $AC = 38$, $DR = 2x$ and $BR = 4x + 2$



For questions #10 – 14, find the angle measures given that each figure is a rhombus.

10. Find the measure of $\angle ABD$ and $\angle ACD$
 $\angle DBC = 44$ and $\angle ACB = 46$



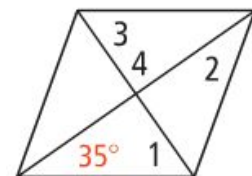
For #11 – 14, use the figure to the right.

11. Find the $m\angle 1$.

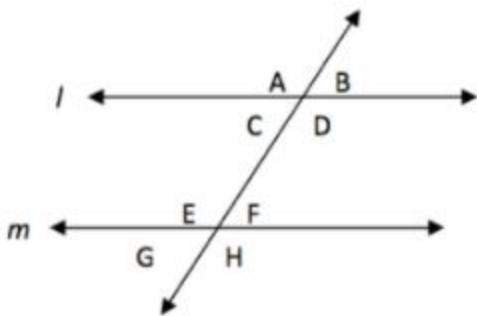
12. Find the $m\angle 2$.

13. Find the $m\angle 3$.

14. Find the $m\angle 4$.



For #11 – 14, find the value of x in each question given that lines l and m are parallel. Then find the measure of each angle.



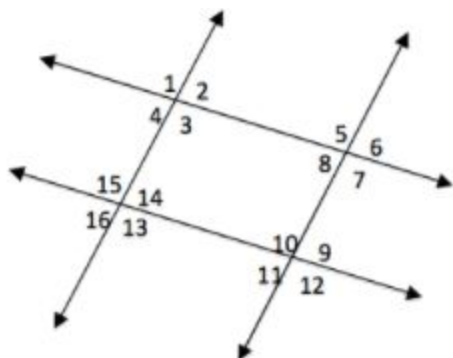
11. $m\angle C = 3x - 10$
 $m\angle F = x + 70$

12. $m\angle D = x + 27$
 $m\angle F = 2x - 39$

13. $m\angle B = 2(x + 40)$
 $m\angle G = 5x + 44$

14. $m\angle E = 7x + 30$
 $m\angle G = 3x + 10$

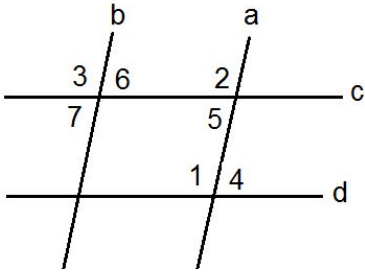
15. Given that $m\angle 4 = 3x + 10$ and $m\angle 12 = 2x + 30$, find the value of x , $m\angle 4$, and $m\angle 10$.



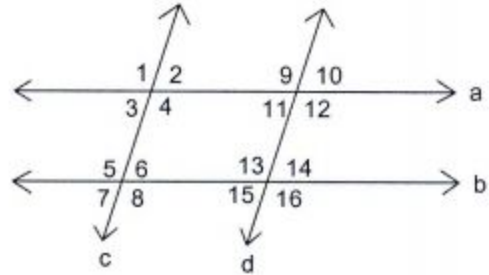
5.2 - Proofs with Lines and

Triangles

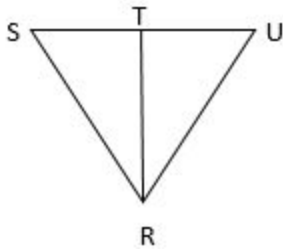
1. Given: $a \parallel b$, $c \parallel d$
Prove: $\angle 7 \cong \angle 4$



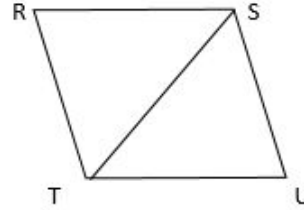
2. Given: $a \parallel b$, $c \parallel d$
Prove: $\angle 1 \cong \angle 13$



3. Given: $RS \cong RU$, $TS \cong TU$,
 $\angle S \cong \angle U$, $\angle SRT \cong \angle URT$
 Prove: $\triangle RST \cong \triangle RUT$



4. Given: $RS \cong UT$, $RT \cong SU$
 Prove: $\triangle RST \cong \triangle UTS$



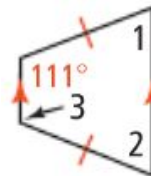
5.5 - Quadrilateral Properties

For #1 – 2, find the measure of each missing angle.

1.

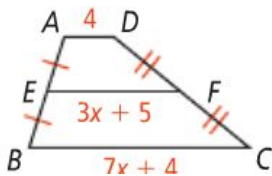


2.

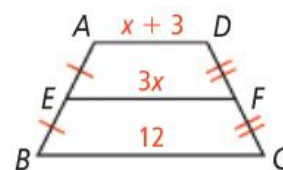


For questions #3 – 4, find x and the length of EF .

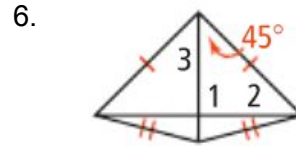
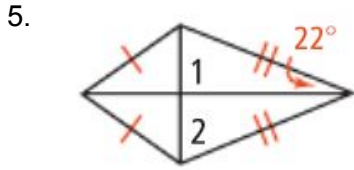
3.



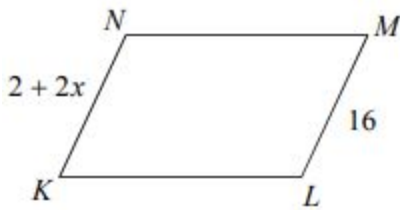
4.



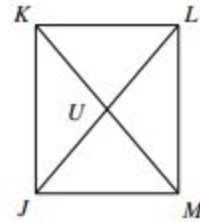
For questions #5 – 6, find the measures of the numbered angles in each kite.



11. Solve for x.

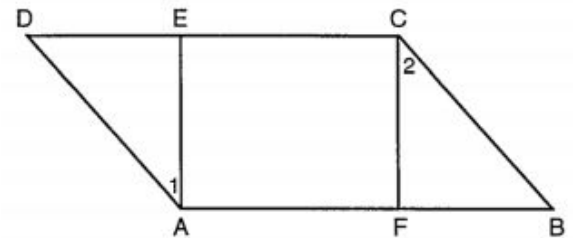


12. Given $KU = 7x - 4$ and $KM = 188$, find x.



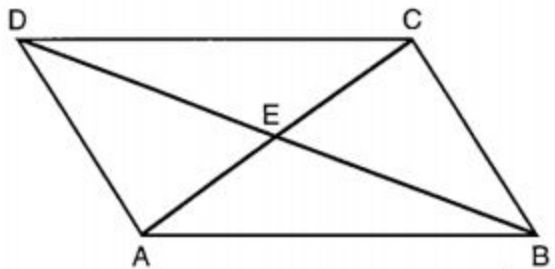
13. Given: ABCD is a parallelogram, $\overline{DE} \cong \overline{FB}$
 Prove: $\angle 1 \cong \angle 2$

Statement:	Reason:
1. Parallelogram ABCD	1. Given
2. $\overline{DE} \cong \overline{FB}$	2. Given
3. $\overline{AD} \cong$ _____	3.



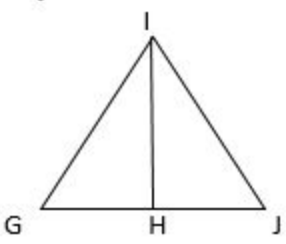
4. $\angle D \cong$ _____	4.
5.	5. SAS
6. $\angle 1 \cong \angle 2$	6.

14. Given: ABCD is a parallelogram
 Prove: $\triangle AEB \cong \triangle CED$

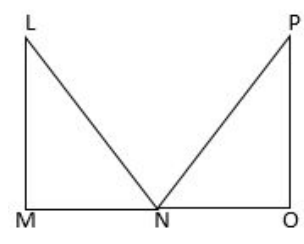


Statement:	Reason:
1. Parallelogram ABCD	1. Given
2. $\overline{AB} \cong$ _____	2.
3. $\overline{AB} \parallel$ _____	3.
4. $\angle CAB \cong$ _____	4. Alternate Interior Angles
5. $\angle AEB \cong \angle CED$	5.
6. $\triangle AEB \cong \triangle CED$	6.

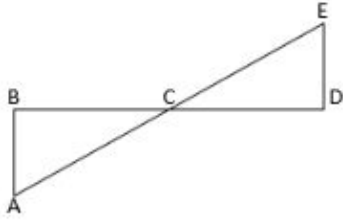
5. Given: H is the midpoint of GJ, $GI \cong IJ$
 Prove: $\triangle GHI \cong \triangle JHI$



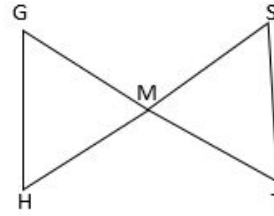
6. Given: $LM \cong PO$, $\angle L \cong \angle P$, $\angle M$ and $\angle O$ are 90°
 Prove: $\triangle LMN \cong \triangle PON$



7. Given: $\angle B$ and $\angle D$ are 90° , AE bisects BD
 Prove: $\triangle ABC \cong \triangle EDC$



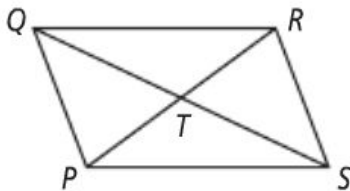
8. Given: M is the midpoint of GT ,
 M is the midpoint of HS
 Prove: $\triangle GMH \cong \triangle TMS$



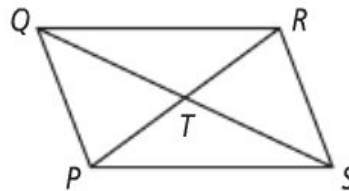
5.3 - Properties of Parallelograms

For #1 -2, use the diagram to solve for x and y if the figure is a parallelogram.

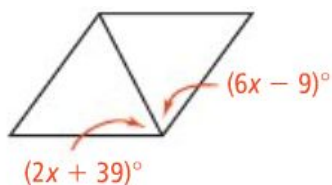
1. $PT = 2x$, $QT = y + 12$,
 $TR = x + 2$, $TS = 7y$



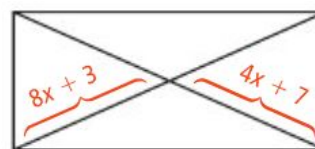
2. $PQ = y$, $RS = 4y - 15$,
 $QR = x + 6$, $PS = 4x - 6$



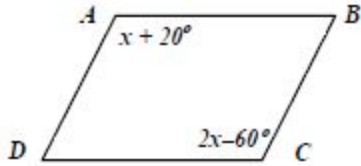
3. Solve for x .



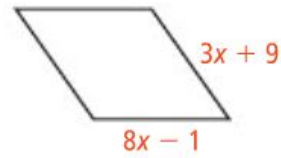
4. Solve for x .



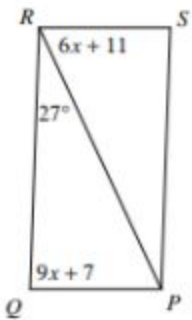
5. Solve for x.



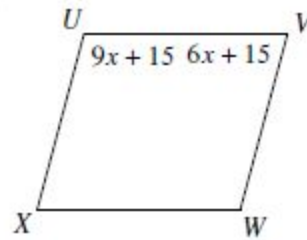
6. Solve for x.



7. Solve for x.



8. Find the measure of $\angle XUV$.



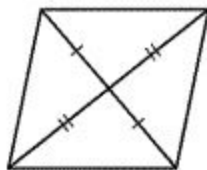
5.4 - Proofs with Parallelograms

Determine if each quadrilateral is a parallelogram. Explain your answer.

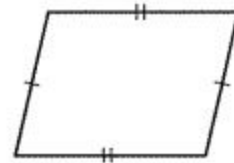
1.



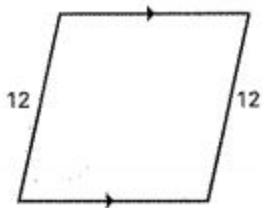
2.



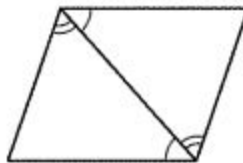
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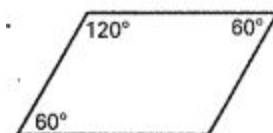
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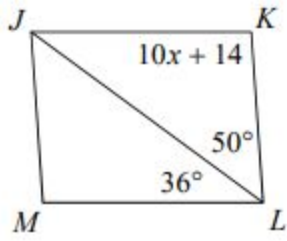
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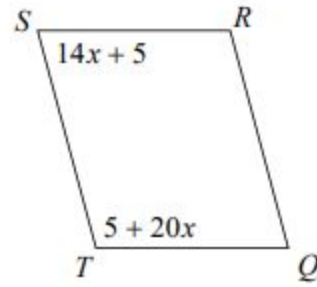
6.



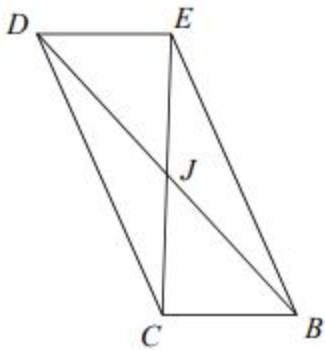
7. Solve for x .



8. Find $m\angle R$.



9. Given $CJ = 5 + 3x$ and $JE = 2x + 11$, find CE .



10. Solve for x and y .

