5B Constructing Angles
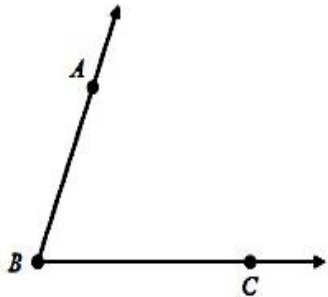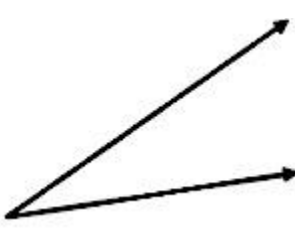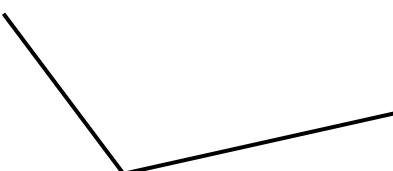
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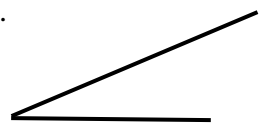
SHOW YOUR WORK FOR FULL CREDIT. NO WORK IN PEN.

Construct congruent copies of the following angles in the space provided. Use **a compass and straight-edge only**. Show all markings.

1.	2.

3.	E.C. Construct a mirror copy of #3

Construct a congruent angle onto the line segment given. Describe how you constructed the angle.
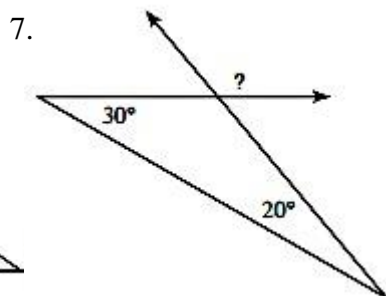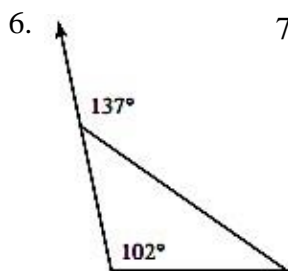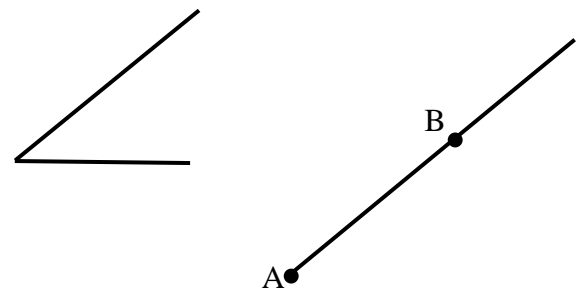
4.

5._____

_____

_____

_____

_____

Find ALL the missing angles below.
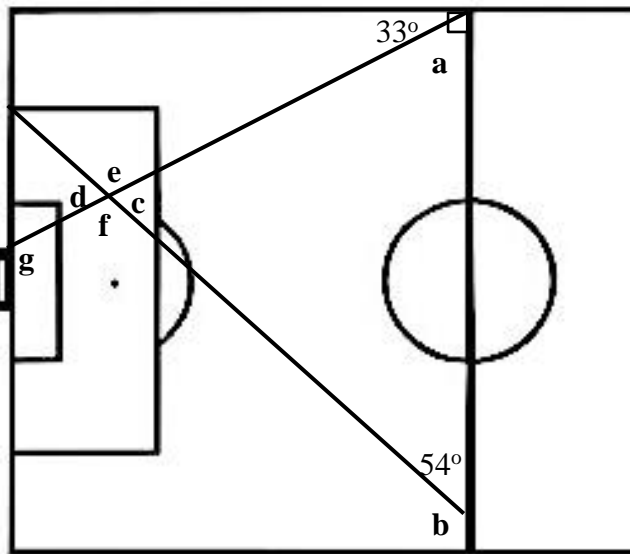
6.

137°

102°

7.

30°

?

20°

8. Copy the angle at point A on the given line.

B

A

9. Copy the angle AGAIN at point B. What do you notice?

10. The following diagram is of a soccer field. **Find the missing angles. Justify your answers**. (The center line is parallel with the baseline).

a. _____ Why? _____

b. _____ Why? _____

c. _____ Why? _____

d. _____ Why? _____

e. _____ Why? _____

f. _____ Why? _____

Extra Credit:

g. _____ Why? _____

11. **Find the equations** for a line using the given information. (Yes, you do know how to do this. See unit 1.)

	PARALLEL (What do you know about the slopes of parallel lines?)	**PERPENDICULAR** (What do you know about the slopes of perpendicular lines?)
a Equation: $y = 2x + 1$	Parallel to the given equation and through the point $(5, 4)$	Perpendicular line through the point $(5, 4)$
b. <table><tr><td>x</td><td>y</td></tr><tr><td>−1</td><td>−6</td></tr><tr><td>1</td><td>−14</td></tr><tr><td>2</td><td>−18</td></tr></table>	Parallel to the line from the table and through the point $(7, 2)$	Perpendicular to the line from the table through the point $(7, 2)$

12. If angles A and B are **supplementary** angles and **angle A is five times as large as angle B**. Find the measure of each angle. Use systems of equations to solve. SYW!
   a. Write two equations.

   b. Solve the system.

   c. What is the measure of angle A. _____ What is the measure of angle B. _____

13. Angles A and B are **corresponding** angles. Angle A = $(2x + 60)°$ and B = $(4x + 20)°$. Solve and find the measure of the angles A and B.