

### What happened to the guy who lost his left side?

Solve each problem and find your solution below. Cross out the box containing that solution. When you finish, write the letters for the remaining boxes in the spaces at the bottom of the page. Show your work on a separate sheet of paper ☺

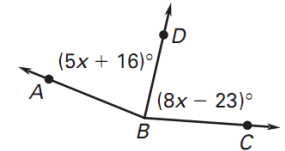
1. Given point C (-2, 4) and D(-6, 12), please find CD in simplest radical form.

**Use the following information for questions 2 and 3.**

**Sally wants to plant a tree at the midpoint of a path in the park. The coordinates of the endpoints of the path are (-6, 8) and (4, -2).**

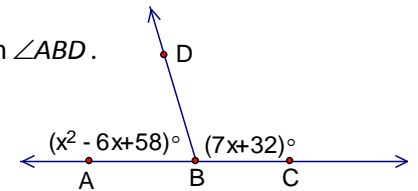
2. Where should Sally plant the tree?
3. Sally cannot bring her truck on the path, so she must carry the tree to plant it. How far along the path must she carry the tree to arrive at the planting spot? Each grid on the coordinate plane represents 10 feet. (Round your answer to the nearest tenth.)
4. When two lines intersect, the measure of one of the angles they form is 40 less than three times the measure of one of the other angles formed. What are the measures of all four angles formed by the lines?
5. X(-2, 5) and Y(6, -1) are both on  $\overline{XZ}$ . Y is the midpoint of  $\overline{XZ}$ . Please find the coordinates for point Z.
6.  $\angle ABC$  is bisected by  $\overline{BD}$  and  $\angle ABD$  is bisected by  $\overline{BE}$ . If  $m\angle ABE = (2x)^\circ$  and  $m\angle ABC = 112^\circ$ , please find  $m\angle EBC$ .

7. Given  $\overline{BD}$  is an angle bisector for  $\angle ABC$ , please find  $m\angle ABC$

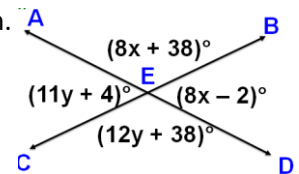


8. Given  $\overline{BD}$  is an angle bisector for  $\angle ABC$ , and  $\overline{FH}$  is an angle bisector for  $\angle EFG$ . Solve for x and y if  $m\angle ABD = 0.2y - 0.5x$ ,  $m\angle ABC = 116^\circ$ ,  $m\angle EFH = (172 + x)^\circ$ , and  $m\angle HFG = 6y^\circ$ .

9.  $\angle ABC$  is a straight angle. Please find  $m\angle ABD$ .



10. B is between A and C. If  $AB = 3x$ ,  $BC = x$ , and  $AC = 20$ , what is the value of x?
11. Please find the measure of the four angles shown.



HI 162°	HE 42°	LP $4\sqrt{5}$	LE 5	FT 70.7 ft	SA $x = -604, y = -72$	FT 85°	FA 55°, 125°, 55°, 125°	LL 218°
VE 70°, 110°, 70°, 110°	RI (2, 2)	DE $x = -112, y = 10$	GH 141.4 ft	AD 84°	TN $5\sqrt{4}$	GR (14, -7)	ES (-1, 3)	OW $x = 112, y = 10$