

The sum of supplementary angles is 1800

d) What are supplementary angles?



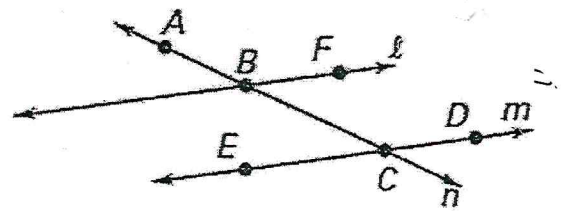
e) Use the figure to the right to name two pairs of opposite rays

$\overrightarrow{BA}$ and $\overrightarrow{BC}$, $\overrightarrow{CE}$ and $\overrightarrow{CD}$

f) Use the figure to the right to name 3 collinear points.

E, C, D

g) Points B and E are always collinear.



4. Find the distance between the point (7,5) and the point (9, -1)? Then find the midpoint.

$$d = 2\sqrt{10} = 6.32$$

M (8, 2)

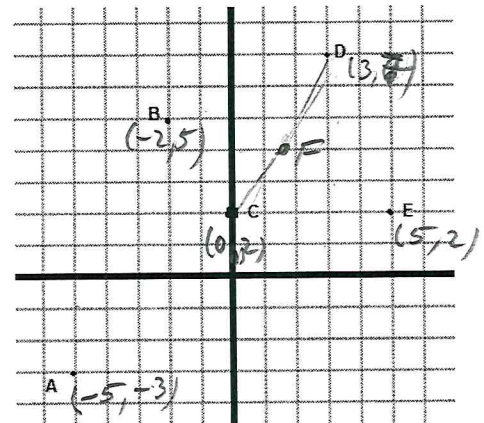
5. Use the figure to right.

a) A car travels from A to B and then to E. What is the total distance?

$$d = d_{AB} + d_{BE} = 8.54 + 7.62 = 16.16$$

b) If F is the midpoint of DC, where is the location of F?

F (1.5, 4.5)

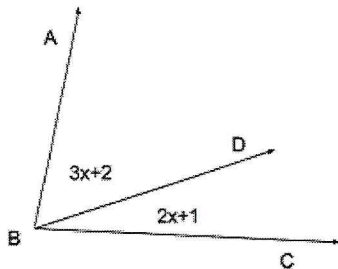


6. If $BD=74$, $BC=2x+7$, and $CD=4x+1$, find x . Then find BC and CD .

$$\begin{aligned} BD &= BC + CD & x &= 11 \\ 74 &= 2x+7 + 4x+1 & BC &= 29 \\ & & CD &= 45 \end{aligned}$$



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If $m\angle ABC$ is 83° , determine $m\angle ABD$ and $m\angle DBC$.

$$\begin{aligned} m\angle ABC &= m\angle ABD + m\angle DBC \\ 83 &= 3x+2 + 2x+1 \\ x &= 16 \\ m\angle ABD &= 50^\circ \\ m\angle DBC &= 33^\circ \end{aligned}$$

8. Complete the following proofs using a 2 column proof:

a) Given: $4(x+3)=52$

Prove: $x=10$

$$\begin{aligned} 4(x+3) &= 52 \\ 4x+12 &= 52 \\ 4x &= 40 \\ x &= 10 \end{aligned}$$

given
distributive property
subtraction property of eq.
division property of eq.

b) If $\angle A$ and $\angle B$ are complementary, and $\angle C$ and $\angle B$ are complementary, which of the following can represent measures of $\angle A$ and $\angle C$?

- a) $m\angle A = 30^\circ$, $m\angle C = 60^\circ$
- ☒ b) $m\angle A = 50^\circ$, $m\angle C = 50^\circ$
- c) $m\angle A = 120^\circ$, $m\angle C = 60^\circ$

$$\begin{aligned} \angle A + \angle B &= 90 \\ \angle C + \angle B &= 90 \end{aligned}$$

d