



Math Virtual Learning

# Middle School NES Math

April 15, 2020




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## Lesson: April 15, 2020

**Objective/Learning Target:**  
Students will calculate the measure of  
vertical angles.

# What are vertical angles?

Watch in English




**Vertical angles**  
**Introduction**

$\angle BED + \angle CEB$  adjacent  
 $\angle CED$  straight  
 $\angle BED + \angle CEB$  supplementary  
 $m\angle BED + m\angle CEB = 180^\circ$   
 $m\angle CEA + 110^\circ = 180^\circ$   
 $m\angle CEA = 70^\circ$

Khan Academy

Watch in Spanish



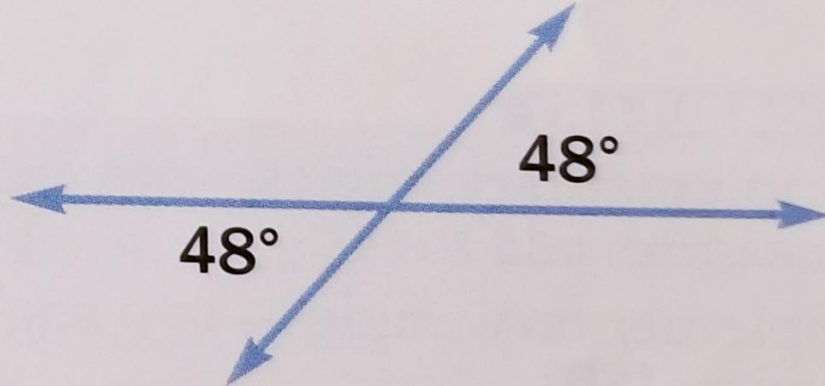
$\angle BED + \angle CEB$  adjacent  
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 $m\angle BED + m\angle CEB = 180^\circ$   
 $m\angle CEA + 110^\circ = 180^\circ$   
 $m\angle CEA = 70^\circ$

# Vertical Angles - Add to Notes


## **Vertical Angles**

Opposite angles have equal measures.

$$48^\circ = 48^\circ$$



# Pronunciation Practice

Click on each word or phrase. Then click the  button to hear the word. Repeat each word or phrase.

vertical angle

opposite

equal

degrees

Opposite angles have equal measures.

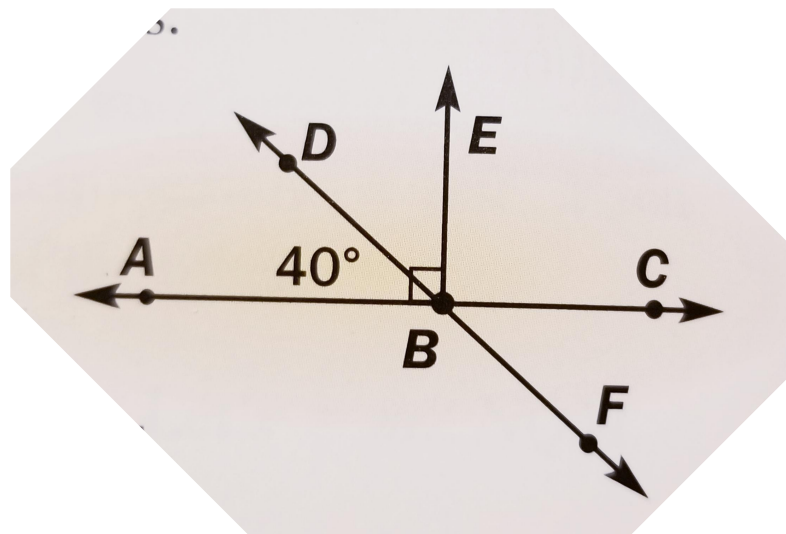
Practice calculating the measure of angles.

Practice in English

Practice in Spanish

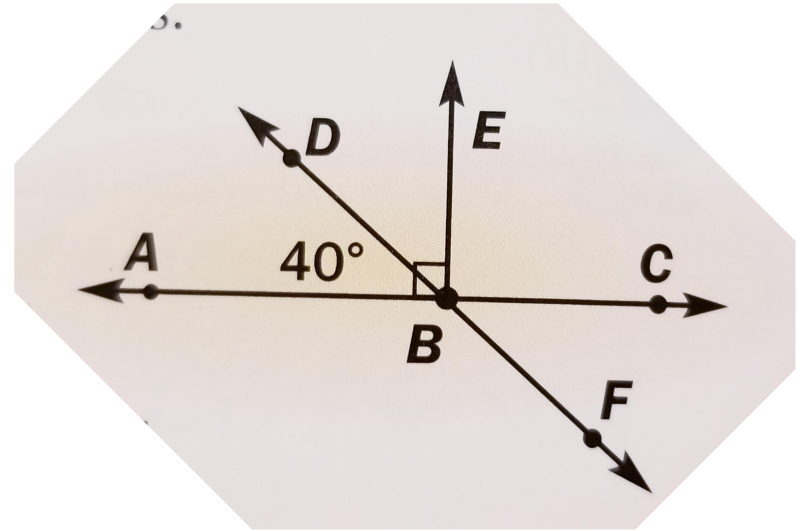
More Practice - Use the figure on the right to answer the questions.

1. Name a pair of supplementary angles.
2. Name a pair of complementary angles.
3. Name a pair of vertical angles.
4. Find  $m\angle FBC$ ,  $m\angle ABF$ , and  $m\angle DBE$ .



# More Practice - Answers

1. Name a pair of supplementary angles.  
 $\angle ABD$  and  $\angle CBD$ ;  $\angle ABE$  and  $\angle CBE$ ;  
 $\angle DBE$  and  $\angle FBE$ ;  $\angle DBC$  and  $\angle FBC$
2. Name a pair of complementary angles.  
 $\angle ABD$  and  $\angle DBE$
3. Name a pair of vertical angles.  
 $\angle ABD$  and  $\angle FBC$ ;  $\angle ABF$  and  $\angle CBD$
4. Find  $m\angle FBC$ ,  $m\angle ABF$ , and  $m\angle DBE$ .  
 $m\angle FBC = 40^\circ$   
 $m\angle ABF = 140^\circ$   
 $m\angle DBE = 50^\circ$





Additional Practice:

English

Spanish