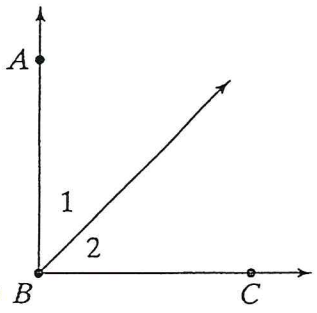
3 Using the Angle Addition Postulate Suppose that $m\angle 1 = 42$ and $m\angle ABC = 88$. Find $m\angle 2$.



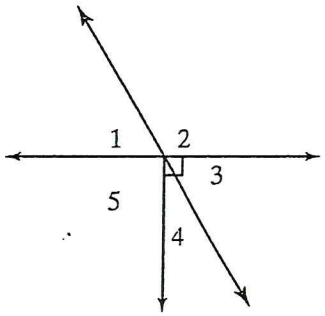
Use the Angle Addition Postulate (Postulate 1-8) to solve.

$m\angle$ [1] + $m\angle$ [2] = $m\angle ABC$ [Angle Addition] Postulate

[42] + $m\angle 2$ = [88] Substitute [42] for $m\angle 1$ and [88] for $m\angle ABC$. (Substitution)

$m\angle 2$ = [46] Subtract [42] from each side. (−PE)

4 Identifying Angle Pairs In the diagram identify pairs of numbered angles that are related as follows:



a. complementary

[∠3 + ∠4]

b. supplementary

[∠1 + ∠2 ; ∠2 + ∠3]

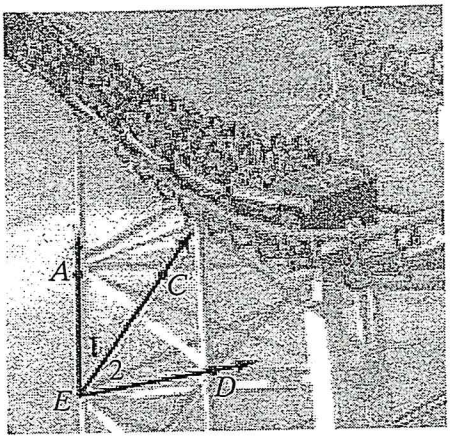
c. vertical angles

[∠1 + ∠3]

Quick Check

1. a. Name $\angle CED$ two other ways.

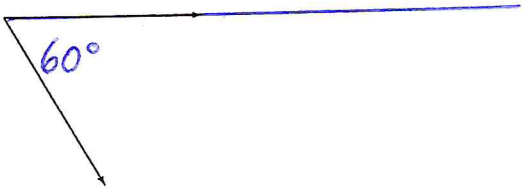
[∠2 or ∠DEC]



b. Critical Thinking Would it be correct to name any of the angles $\angle E$? Explain.

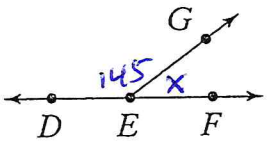
[No, using E alone is too ambiguous. You don't know if you're refering to ∠1 or ∠2 or ∠AED]

2. Find the measure of the angle. Classify it as *acute*, *right*, *obtuse*, or *straight*.



[60° ; acute]

3. If $m\angle DEG = 145$, find $m\angle GEF$.



[m∠GEF = 35°]

x + 145 = 180
−145 −145
x = 35°