Name_____ Date_____ Per_____

Assignment: Special Angle Pairs Formed by Parallel Lines and a Transversal

1.) Octavio Gomez is assigned to build a modern bookcase for his woodshop class at Palm Springs High School to furnish a mid-century modern home. The two shelves are parallel and leveled to the top and bottom base of the bookshelf and the sides of the bookshelves are slanted and parallel to give it a modern flair. To make sure the bookshelf does not fall over, the bottom left angle on the base must be 80^{o}, and the bottom right angle on the base must be 100^{o}. Draw a diagram of the bookshelf, label the given information, and find all the missing angles created inside the bookshelf and label inside the diagram. Explain how you found the angles by using the correct angle pair vocabulary.

Explanation: _____

_____

_____

_____

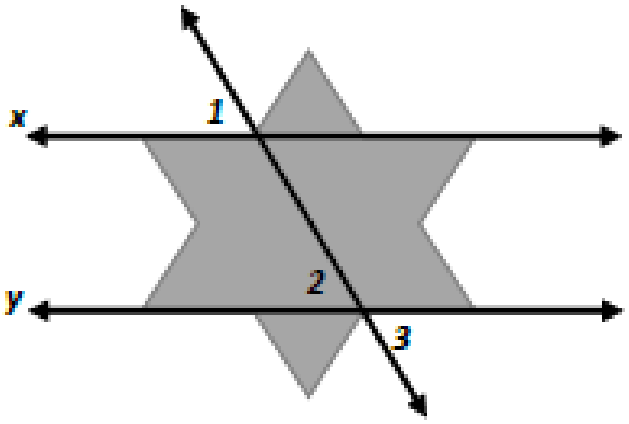
_____

_____

_____

_____

2.) Rylie Krachman painted the following design for a logo project in her Integrated Math II course. Line x is parallel to line y. If $\boldsymbol{m\angle 1 = 65°}$, find $\boldsymbol{m\angle 2}$ and $\boldsymbol{m\angle 3}$. Explain how you found the answer by using the correct angle pair vocabulary.



Explanation: _____

_____

_____

_____

_____

_____

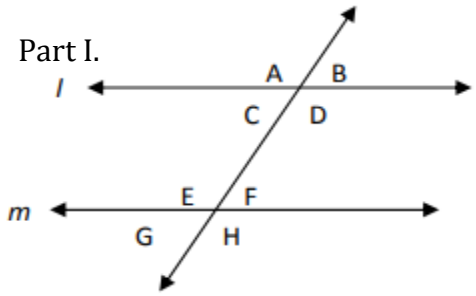
_____

_____

Name_____ Date_____ Per_____

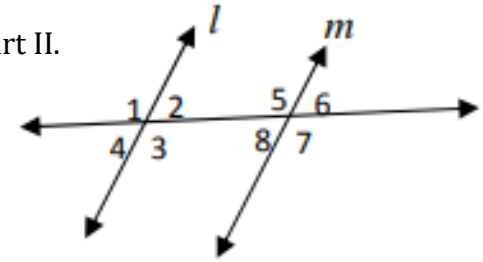
Assignment: Special Angle Pairs Formed by Parallel Lines and a Transversal

Part I.



$l \parallel m$

Part II.



Show all work!!!!!

Part I: Solve for x and the angle measures

1.) $m\angle C = 3x - 10$; $m\angle F = x + 70$

x = _____

$m\angle C$ = _____ $m\angle F$ = _____

2.) $m\angle D = x + 27$; $m\angle F = 2x - 39$

x = _____

$m\angle D$ = _____ $m\angle F$ = _____

3.) $m\angle B = 2(x + 40)$; $m\angle G = 5x + 44$

x = _____

$m\angle B$ = _____ $m\angle G$ = _____

Part II: check for extraneous solutions (values of x that will create a negative angle measure)

1.) $m\angle 3 = x^2 + 112$; $m\angle 8 = 16x + 131$

x = _____ x = _____

2.) $m\angle 3 = x^2 - 2x$; $m\angle 6 = 3x + 108$

x = _____ x = _____

3.) $m\angle 1 = x^2 - 7x$; $m\angle 7 = -x + 7$

x = _____ x = _____