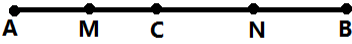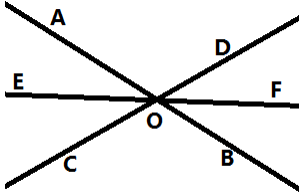Grade 8 Bilingual math worksheet2: **proof**   Name: _____   Score:_____
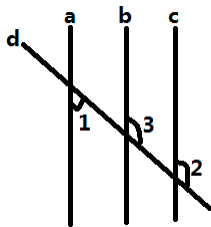
1. As in the graph, C is an arbitrary point on segment AB. M, N are middle points of AC, BC. Prove that MN=$\frac{1}{2}AB$
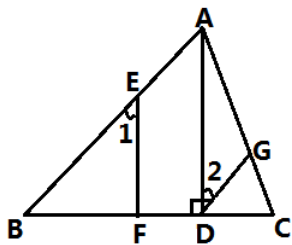

2. As in the graph, line AB intersect line CD at point O, OE, OF bisect $\angle AOC, \angle BOD$. Prove that $\angle EOF = 180°$

3. As in the graph, if $\angle 2 = \angle 3, \angle 1 + \angle 2 = 180°$. Find all pairs of parallel lines, and give your reasons.
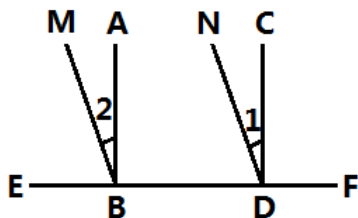

4. As in the graph, $AD \perp BC, \angle B + \angle 1 = 90°, \angle 1 = \angle 2$. Prove that $AB \parallel DG$
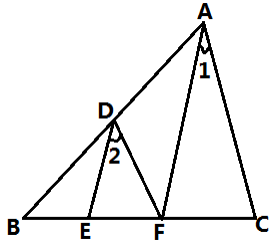

5. As in the graph, $AB \perp EF, CD \perp EF$ with foot of perpendicular B,D. $\angle 1 = \angle 2$.
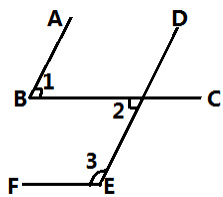
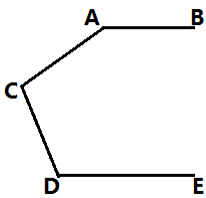(1) Prove that $AB \perp CD$

(2) Is BM parallel to DN? Give your reason.

6. As in the graph, AF bisect $\angle BAC$, DE bisect $\angle BDF, \angle 1 = \angle 2$. Prove that
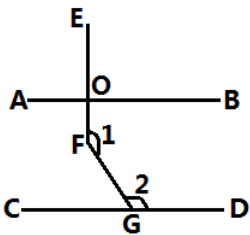(1) $DE \parallel AF$ (2) $DG \parallel AC$

7. As in the graph, $AB \parallel DE, \angle 1 + \angle 3 = 180°$. Prove that $BC \parallel EF$

8. As in the graph, $AB \parallel EF$, then find $\angle BAC + \angle ACD + \angle CDE$

9. As in the graph, $AB \parallel CD, EF \perp AB$ with foot of perpendicular $O, \angle 2 = 140°$. Find the size of $\angle 1$.

10. We have 3 boxes and only one of them has apples inside. If only one of the three sentences on boxes is correct. Can you find where are the apples?

has apples	no apples in	no apples
	(1)	here
(1)	(2)	(3)