rem, afforded by the Lady's and Gentleman's Diary. We proceed to give the solutions forwarded by Dr. Allison.

SOLUTIONS BY ALEX. MCKAY, ESQ.,

Principal of the Dartmouth High School, Nova Scotia.

1. Proof. If two straight lines bisecting two angles of a triangle and terminated at the opposite sides be equal, the bisected angles shall be equal.

Let LCF be the triangle of which the angles LCF and LFC are bisected by the equal lines CD and FA. The bisected angles shall be equal.



"If not let LC>LF. Make LM = LC. Join MO and produce to K. Because the perpendiculars BO, EO and GO are equal (IV. 4) and ∠ BAO>GFO (I. 16), ... FO > AO (I. 19, Ex. 8) and $\angle OFM > OAC > CKO.$ LB = LE (I. E. Cor.), \therefore $\therefore \ \angle LMK =$ ME = CBLCD (I. 26) $\therefore MK = CD$ (I. 26). MO > OF (I. 19, Ex. 9). Now if KO > or= AO, then MK > FA, \therefore CD > FA. But CD = FA, which is impossible; then

LC=LF. But if KO < AO, make OK' = OK and $\angle OK'A' = OKA$, $FP \parallel K'A'$ and $A'N \parallel K'F$. $\angle AKO > \angle KAO$, $\therefore \angle A'NP > \angle A'PN$. MA' > A'P > A'N or K'F, $\therefore MK > FA$, $\therefore CD > FA$; but CD = FA, which is impossible. $\therefore LC = LF$ and $\angle LCF = LFC$.



2. Proof. Let ABC be the \triangle and BE, DC and AF lines which bisect the angles. These lines meet in O (Ex. 8, p. 56) and the perpendiculars GG, HO and KO are equal (IV. 4).

Case 1.—Taking BC as the base, DB > GB and also EC > KC. If AB > AC then BO > OC, and $\therefore \angle GDO > KEO$ and GO = KO, then (I. 19, Ex. 3) OE > OD, $\therefore BE > CD$; but it is also equal, which is impossible, $\therefore AB = AC$.

The same proof holds when either

D and G, or E and K coincide.

Case 2.—Taking AB as the base, AL < AK and BF < BH. Then if CA > CB make $\angle LBA = \angle FAB$ and $\angle MBN = LAN$. AN = BN and LN = MN (I. 26). FA > MA or BL. BL > BE (I. 19, Ex. 3), $\therefore FA > BE$, but FA = BE, &c.

The proof is precisely similar when AC is considered as the base, and FC > HC, but DA < GA.

SOLUTION FROM THE NORMAL SCHOOL, .TEUBO, N.S.

Let the bisectors BE, CD be equal. Then the triangle is isosceles.



Let BE, CD intersect in F. Then because the angles ABC, ACB are together less than two right angles, their halves FBC, FCB are together less than one right angle. Hence BFC is an obtuse angle. $\therefore CF$ is greater than $\frac{1}{2} CD$ (Hamblin Smith, Ex. 2, p. 29, and Ex. 27, p. 118);

.. CF is greater than $\frac{1}{2}BE$. Hence BCE is acute (H. Smith, Ex. 9, p. 56), also DBC is acute. Now if BD is less than EC, make DH = EC; then HC is less than BC (I., 24). [For it may be shown that if BD be less than EC, angle BDC is less than CEB.] But HC is greater than BC, an inconsistency. Hence EC is not greater than DB; and it may be shown to be not less. Hence EC = DB, and angle DBC = ECB.

We are compelled to leave over our correspondence for next month.

Practical Department.

OUTLINE NOTES ON QUESTIONI (G.

- BY JAMES HUGHES, INSPECTOR OF SCHOOLS, _ORONTO.
- I. KINDS-1. Tentative or Preliminary; 2. Teaching or Instructive (S. oratic); 8. Testing.
- 1. Tentative-(a) Probe to find previous knowledge; benefit to pupils and teacher.
 - (b) To gain attention.
 - (c) To form basis for lesson and connect with past lessons.
- 2. Teaching—(a) Lead in making discoveries; Guide.
 - (b) Be Logical, {1. From effect to cause. 2. " cause to effect.
 - (c) Step by step.
 - Reviewing-
- 8. Testing. { Reviewing-
 - (a) Thorough (Find out how little, not how much pupils know.)
 - (b) Only on work taught or assigned.
 - (c) Never should be neglected.
 - GENERAL RULES.
- 1. Never ask in Rotation or s. order.
- 2. Never indicate the pupil to receive the question until it has been stated.
- 8. Do not repeat a question for the inattentive.
- 4. Let questions be simple or pupils guess or keep silence.
- 5. Make simpler, if not understood.
- 6. Vary form if pupils cannot answer.
- 7. Questions should admit of only one correct answer.
- 8. Suit the difficulty to the advancement of class.
- 9. Do not indicate the answer by emphasis, tone, countenance, form of question, or part of a word, &c.
- 10. If using elliptical questioning, let omissions be definite.
- 11. Do not insist on book form or set form of words, except verses of Scripture and definitions in certain subjects.
- 12. Avoid a set form of words in asking questions.
- 18. Do not use book questions.
- 14. Give every QUESTION to every pupil; then ask one for ANSWER.

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