

each, and have likewise the angles contained by those sides equal to each other, they shall likewise have their bases or third sides equal, and the two triangles shall be equal, and their other angles shall be equal, each to each, viz., those to which the equal sides are opposite:

$ABDE$ ,  $BFGC$  are squares on two sides of the triangle  $ABC$ , and  $AF$ ,  $CD$  are joined; shew that  $AF$ ,  $CD$  are equal.

2. The greater side of every triangle is opposite to the greater angle.

Point out where the *demonstration* begins.

#### PUPIL-TEACHERS AT END OF THIRD YEAR.

*Three hours and a half allowed.*

##### ARITHMETIC.

###### MALES.

1. A gives B £63 17s. 6d. as payment of a loan and interest at the rate of  $3\frac{3}{4}$  per cent. The money was lent  $3\frac{3}{4}$  years before. What was the amount of the loan?

2. A person has  $\frac{1}{4}$  of a ship worth £6,600, and insured for 91.25 per cent. of its real value. What amount of damage would he sustain in case of the ship being lost?

3. £825 for .825 of a year at 8.25 per cent. Find simple interest and amount.

4. At what price per yard must cloth be sold to gain 17 per cent., if by selling 109 yards of it for £46 6s. 6d., 8 per cent be gained?

5. Divide £10,000 among  $A$ ,  $B$ ,  $C$ , so that  $A$  may have half as much again as  $B$ , and  $B$  a third as much again as  $C$ .

###### FEMALES.

1. Find the sum, differences, product, and quotient—the greater being divided by the less—of 1.015 and .01015.

2. Find the difference between  $6\frac{1}{2}$  half guineas and £3.525; and reduce the result to the decimal of a crown.

3. Add  $5\frac{1}{2}$  cwt. to 3.125 qr., and reduce the sum to the decimal of a ton.

##### GRAMMAR.

1. Words or phrases attached to the nouns of a sentence are called *enlargements*, attached

to the verbs they are called *extensions*. Give two examples of each.

2. "Dost thou so *hunger* for my empty chair  
That thou wilt *needs invest* thee with mine honours?  
*Stay* but a little; for my cloud of dignity  
Is held from *falling* with so weak a wind.  
That it will quickly drop."  
—Shakspeare ("Henry IV.")

(a) Analyze the last three lines.

(b) Parse the words in italics.

(c) Give the meaning of the above passage in your own words, explaining, so far as you can, the figures and metaphors.

3. What are the Latin prepositions that mean *out of*, *from*, *under*? Give examples of words in which they occur, pointing out the force of the preposition in each case.

*One hour allowed for Females—Two hours and a half allowed for Males.*

##### HISTORY.

1. Explain the relations of Mary Stuart to the thrones of Scotland, England and France.

2. How did Charles I. regard Parliament? What were the consequences?

3. Shew the descent of Queen Victoria from James I., and compare the extent of dominion of the two monarchs.

##### EUCLID.

[All generally understood abbreviations for words may be used, but not symbols of operation, such as  $-$ ,  $+$ ,  $\times$ .]

1. If a side of any triangle be produced, the exterior angle is equal to the two interior and opposite angles; and the three interior angles of every triangle are together equal to two right angles. The difference of the angles at the base of any triangle is double the angle contained by two lines drawn from the vertex, one bisecting the vertical angle, the other perpendicular to the base.

2. Equal triangles upon the same base and upon the same side of it are between the same parallels. Point out where the *demonstration* begins.