

3. Resolve into elementary factors:—

$$(I.) ab + ax - bx - x^2;$$

$$(III.) 1 + 4y^2 + 4y^4.$$

$$(II.) x^2 + 4x - 45.$$

$$(IV.) x^6 - y^6.$$

4. Find the H. C. F. of $15x^2 - 18xy + y^2$ and $40x^2 - 3xy - y^2$.

5. Solve the equations:—

$$(I.) (x + 7)(x - 3) = (x - 5)(x - 15).$$

$$(II.) \frac{x + 5}{7} = \frac{x + 2}{4} - \frac{x - 2}{3}.$$

6. The sum of the ages of a father and son is half what it will be in 25 years; the difference is one-third what the sum will be in 20 years. Find the respective ages.

Geometry.— $1\frac{1}{2}$ hours.

1. Define:—"Plane Surface," "Diameter of a Circle," "Rectilinear Figures," "Square," "Parallel Straight Lines."

2. In how many ways may plane triangles be classified? Classify them in each way you mention.

3. If two angles of a triangle be equal to one another, the sides also which subtend, or are opposite to, the equal angles, shall be equal to one another.

4. If two straight lines cut one another, the vertical, or opposite, angles shall be equal.

5. The greater side of every triangle has the greater angle opposite to it.

LANGUAGE.

Children must think well before they write well.

Children should have something to say before they talk.

Children talk best about what they see.

Children will talk about what they wish more readily than about what you wish them to talk about.

Children will talk with each other better than with you.

Children use all parts of speech of their own account before they are four years of age.

A child's vocabulary will grow as fast as he has any desire to use it.

A child will talk fast enough if you let him talk as he wants to.

When a child can write easily he likes to write.

The aim to have the child make perfectly formed letters, by drawing the lines in the letters, makes it practically impossible for them to enjoy writing.

Never teach penmanship in connection with early composition writing. A child's attention must be upon his thought rather than his pen.

The correct formation of the letters must be established by his penmanship lessons.

There must be much and frequent writing before it will be enjoyable.

Written language work should be incidental rather than formed, a luxury instead of a task.—*The American Teacher.*