Their tendency is to give the pupils a love of school, and therefore to secure a more regular and larger attendance.

They do much to make the school strong with the people—an object that every teacher should endeavor to accomplish.

I desire to call your attention to the remarks of Mrs. Elizabeth Gale, of Mt. Healthy, Ohio, as they present the subject of memorizing selections in another light.

Mrs. Gale is the aunt of J. G. Holland. "Dear old aunt," writes Dr. Holland, "she is the only living link that binds me to the last generation." Mrs. Gale, though ninety-two years of age on the 17th of last December—Whittier's birthday—is bright and intelligent.

It was one of the happiest moments of my life when that dear old lady, then in her ninety-third year, holding in her hand a pamphlet of selections I had sent her, said to me, "Mr. Peaslee, you don't know how much good you are doing by introducing these selections into the schools. You don't know how the children will appreciate them when they are old."

What a source of consolation they will be to them then. How they will love to say them over and over again. "Why," said she, "thinking over and repeating the little pieces I learned in childhood is one of the greatest comforts left me now."

She then recited a number of selections. Among them was one entitled "To my Watch," which she learned at home when a child only four years of age. I had the piece written from her dictation, and printed, with the change suggested by Dr. Holland, of a single word:

"TO MY WATCH."

Little monitor, by thee
Let me learn what I should be;
I'll learn the round of life to fill,
Useful and progressive still.

Thou can'st gentle hints impart
How to regulate the heart;
When I wind thee up at night,
Mark each fault and set it right;
Let me search my bosom, too,
And my daily thoughts review.

I'll mark the movements of my mind,
Nor be easy when I find
Latent errors rise to view,
Till all be regular and true.

This incident needs no comment from me. It tells stronger than any words of my own, of how wonderfully the memory retains little pieces committed to its precious care in early childhood.

Yes, these beautiful selections will be remembered and will influence our children for good when the technicalities of their grammar, the abstrusities of their arithmetic, and the obscure locations of their geographies are forgotten.

Mathematical Department.

Communications intended for this part of the JOURNAL should be on separate sheets, written on one side only, and properly paged to prevent mistakes. They must be received on or before the 20th of the month to secure notice in the succeeding issue, and must be accompanied by the correspondents' names and addresses.

EXAMINATION PAPERS.

EUCLID.

1. Define a straight line. Is there any objection to the definition? State practical tests of the straightness of a ruler. Shew how rectilineal motion may be obtained from circular by linkages.

2. All the interior angles of a rectilineal figure, together with four right angles, are equal to twice as many right angles as the figure has sides.

Shew that a polygon of n sides cannot have more than $n-3$ re-entrant angles.

3. A parallelogram is double of a triangle having same base and same perpendicular height.

$ABCD$ is a parallelogram, and O a point in BD produced; OM, ON are perpendiculars on AD, CD respectively produced. Shew that the rectangles AD, OM and CD, ON are equal.

4. State Euclid's method of forming a square of area equal to that of any given rectilineal figure, and prove one of the two propositions involved.

5. Given an arc of a circle, shew how to complete the circle.

6. On a given straight line construct a segment of a circle containing an angle equal to a given rectilineal angle.

Given the base, vertical angle and radius of inscribed circle of a triangle, construct the triangle.

7. To inscribe a circle in a given triangle.

Shew that only in an equilateral triangle can the centres of the inscribed and circumscribed circles be coincident.

8. If the vertical angle of a triangle be bisected by a line cutting the base, the segments of the base are in the same ratio as the sides.

When the base BC is divided as in this proposition at D, and in Prop. A at E, shew that BD, BC, BE form an Harmonic Progression.

9. Shew that the locus of a point, whose distance from one given point is double its distance from another, is a circle.

The following solutions of problems in the January issue had inadvertently been laid aside:

1. Solution by Mr. M. L. Nutting, Kinsale: Since each shot is 8 inches in diameter, it will require 27 cubic inches of the box. But the solid content of each shot is $\frac{4}{3}\times 3{\cdot}14159\times(\frac{4}{3})^3 = {\cdot}5236$ of 27 cub. in. Hence the part of the box filled is ·5236.

Solutions were also received from W. Bickell, Mountsburg, and A. H. Finch, Walter's Falls.

2. Solution by W. Bickell.

Let x=no. of persons,
y=bill of each.
Then xy=bill of company.
$\therefore (x+8)(y-1)=xy=(x-2)(y+1)$.
$\therefore 8y-x=8$
$x-2y=2$
or $x=12$, $y=5$.

Solutions also by M. L. Nutting, G. L. Merrill, Uxbridge, and Lucille Hoffman, Port Hope.

3. Solution by L. A. Hoffman, Port Hope.

Direct Exchange, 1 lira, = \$·22.
7,500 " = \$1,650.
Indirect Exchange, 1 " = $1\frac{1}{8}$ francs.
$= \frac{25}{26}$ £
$= \frac{1\frac{1}{8}}{26} \times 4.95$ \$
7,500 " = \$1,606.37$\frac{1}{2}$;
and difference = \$43.62$\frac{1}{2}$.

Solutions also by A. H. Finch, G. R. Merrill, M. L. Nutting, and W. Bickell.

4. Solution by W. Bickell.

$\frac{3}{4}$ of Investment — 1,200 = capital at end of 1st year.
$\frac{3}{4}$ " " — 3,000 = " " 2nd "
$\frac{27}{32}$ " " — 5,700 = " " 3rd "
$\frac{81}{128}$ " " — 9,750 = " " 4th "
= 4 times investment.
$\therefore$ Investment = \$9,176$\frac{4}{7}$.