are equal, and triangles OFD, OFA are equal. Hence triangles OCD and OAE are equal, since AE = CD by construction.

Hence angles ODC and OAE are equal; but we have seen angles ODF and OAF equal. Hence angles ADC and DEA are equal, and our theorem is proved.

In the next article, we shall endeavor to discuss some problems in mathematical drawing. In Nova Scotia there is no text-book assigned, and our aim will be to cover the ground of the work for grades IX and X.

Yale University, January 27th, 1904.

The Sky in February.

The firmament never presents a more varied and splendid panorama than it displays in mid-winter. An hour or two after sunset on any of the nights near the beginning of the month, Betelguese and Rigel may be seen in the southern section of the sky with Sirius, a little bit lower in the same quarter. Procyon, the smaller of the dog stars, and the Twins, Castor and Pollux, are in the east, and Capella and Aldebaran away up overhead, the former to the northward and the latter to the southward of the zenith point. About nine o'clock Regulus will come into view in the east, and Spica some two hours later will be in plain sight in the southeastern quadrant. These are all among the brightest of the stars ever visible to us.

Saturn was in conjunction with the sun on the 1st, and is now a morning star, but we shall not see his soft mellow light in the evening sky until August. Uranus and Mercury are morning stars. Mars is in fairly close proximity to the growing moon when it is two days old, and then on the 26th he and his giant brother, Jupiter, almost touch each other. It will be an interesting thing to watch, this gradual drawing together of these two planets until we can hardly see any sky separating them, and then to see them separate and gradually widen their distance. Jupiter still shines a beautiful object in the western section of the evening sky. He is drawing in toward the sun, and at the close of next month will reach conjunction and then pass to the morning sky, a challenger to Venus for its sovereignty. — *Condensed from the N. Y. Times.*

It is never too late to learn. Pierre Germain, a student of the horticultural school at Vilvorde, Belgium, shows that he believes in this truth, for he has just completed his course, at the mature age of sixty-nine years. In the German colleges aged students are by no means uncommon. They are known by the younger generation as "mossy ones" —or, in plain American, "mossbacks."—*Pathfinder.*

To Find Cube Root by Inspection.

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The following method of finding by inspection the cube root of a number will often be found useful. This method applies to numbers of six or less digits only, and fails if the cube root is not a whole number.

The cubes of the nine significant digits should be memorized. They are as follows:

$1^3 = 1$; $2^3 = 8$; $3^3 = 27$; $4^3 = 64$; $5^3 = 125$; $6^3 = 216$; $7^3 = 343$; $8^3 = 512$; $9^3 = 729$.

Examine the above and note the following facts:

(1) The cube of 1 is 1, and the cubes of 4, 5, 6 and 9 end in 4, 5, 6 and 9 respectively.

(2) The cube of 2 is 8, and the cube of 8 ends in 2.

(3) The cube of 3 ends in 7, and the cube of 7 ends in 3.

Upon these facts the method depends. One or two examples will suffice to show their application.

Example 1. Find the cube root of 15625.

Counting from the right, mark off three figures by a vertical line, thus 15|625. The nearest perfect cube not greater than 15 is 8. The cube root of 8 is 2. The number ends in 5, therefore its cube root must end in 5. Therefore the cube root of 15625 is 25.

Example 2. Find the cube root of 912673.

Mark off three figures by a vertical line, as before, 912|673. The nearest perfect cube not greater than 912 is 729. The cube root of 729 is 9. The number ends in 3, therefore its cube root must end in 7. Therefore the cube root of 912673 is 97.

The cause of poor spelling in these days, and of nearly every other weakness in the learning of children, is mainly due to the blindness of so-called educational leaders who are continually and clamorously demanding easy roads to knowledge. There are not, nor can there be, easy roads to any knowledge worth having. The best things in this world are attained through difficulties. What comes without effort has little value. "There is no other royal path which leads to geometry," is as true now as it was when Euclid said it to Ptolemy I. more than 2,000 years ago. In season and out of season, let the eternal truth be taught to every child, that "There is no excellence without great labor." — *Western School Journal.*