2. A boy gives $\frac{2}{5}$ of his marbles to A, $\frac{1}{6}$ to B, and the rest to C. B wins 10 marbles from C, and then has 6 more than A. How many had the boy at first?

3. A and B agree to do a piece of work for $24. A can do the work in 8 days, B in 10 ; but C joins them, and the work is done in 3 days. How should the money be divided?

4. A grocer bought tea at $1.20 a pound, and some at 60 cents, and mixed them in such proportions that he gained 20% by selling the mixture at $1.05 a pound? In what proportion did he mix the tea?

EXERCISE III.

1. If it be worth 90 cents per cord to cut a pile of cordwood, which is 6 ft. high and 24 ft. long, into three lengths, what would it be worth to cut the pile of wood into four lengths at the same rate?

2. If A can dig 10 post holes in a day ; B, 15 ; C, 20 ; find the least number of post holes that will furnish an integral number of days' labour for each, or for any two, or for all together.

3. How much water is there in a mixture of $37\frac{1}{2}$ gals. of wine and water, worth $1 per gal., if 35 gals. of pure wine be worth $43.75?

4. A man lost $\frac{1}{3}$ of $\frac{1}{2}$ of his money in addition to

$$\cfrac{1}{2 + \cfrac{1}{2 + \cfrac{1}{2}}}$$

of his money, and then he finds that he lost 30 cents more than he has left. How much had he at first?

5. A grocer sells 9 dozen eggs for same amount as he gave for 10 dozen. How much of his outlay does he gain at this rate?

EXERCISE IV.

1. A man in harrowing a field walks 25 miles in a day. If his harrow be 9 feet wide and the farm worth $55 per acre, find the value of the property harrowed each day.

2. If the population of a town increased each year of the first five years in a decade by $\frac{1}{10}$ of itself, what would it have to decrease each of the remaining years of the decade to show the same population as at first?

3. A farmer takes to market 2,350 lbs. grain made up of equal quantities by measure of oats and wheat. He sells the former at 40 cents per bush., and the latter at 88 cents per bush. Find the proceeds of the sale.

4. The floor of a skating rink which covers $\frac{1}{4}$ acre of land is flooded with water to the depth of $1\frac{3}{8}$ inches. If this freezes, how many tons of ice would the floor contain, allowing water to expand $\frac{1}{10}$ in freezing?

5. A and B invest a certain sum of money in business, A's investment being $66\frac{2}{3}$ per cent. of what B invests. At the end of 7 months A withdraws 25 per cent. of his capital, and at the end of 9 months B withdraws 25 per cent. of his. The profits at the end of the year are $1,326. How should this be divided?

Algebra.

The following exercises in factoring will be found useful to close the term :

EXERCISE I.

1. $6x^3 + 2x^4 - 4x^5$.
2. $7a + 7a^3 - 14a^4$.
3. $a^2 + 3a + 2$.
4. $x^2 - 19x + 90$.
5. $x^2 + 20x + 96$.
6. $a^2 + 30a + 225$.
7. $m^2 - 13mn + 40n^2$.

8. $a^2 - 20abx + 75b^2x^2$.
9. $12 - 7x + x^2$.
10. $132 - 23x + x^2$.
11. $130 + 31xy + x^2y^2$.
12. $204 - 29x^2 + x^4$.
13. $a^2 + 54a + 729$.
14. $a^2 - 38a + 361$.
15. $a^2 + 5ab + 6b^2$.

EXERCISE II.

1. $m^2 - 22mn + 105n^2$.
2. $x^4 + 9x^2y^2 + 14y^2$.
3. $a^4b^4 + 37a^2b^2 + 300$.
4. $20 + 9x + x^2$.
5. $143 - 24xa + x^2a^2$.
6. $a^2 - a - 20$.
7. $a^2 - ay - 210y^2$.

8. $a^2 - 11a - 152$.
9. $x^2 + 18x - 115$.
10. $x^2 - 20xy - 96y^2$.
11. $a^2b^2 - 3abc - 10c^2$.
12. $a^2 - 18axy - 243x^2y^2$.
13. $x^6 + x^3 - 870$.
14. $2 + x - x^2$.
15. $120 - 7ax - a^2x^2$.

EXERCISE III.

1. $a^2 - 2ab + b^2 - x^2$.
2. $y^2 - c^2 + 2cx - x^2$.
3. $a^4 - 25x^6 + 8a^2x^2 - 9 + 30x^3 + 16x^4$.
4. $a^2 + x^2 - (y^2 + z^2) - 2(yz - ax)$.
5. $1 - a^2x^2 - b^2y^2 + 2abxy$.

6. $x^2 - 4y^2 + x - 2y$.
7. $(a + b)^2 + a + b$.
8. $x^4y - x^2y^3 - x^3y^2 + xy^4$.
9. $4m^4 + 9n^4 - 24m^2n^2$.
10. $m^4 + n^4 - 18m^2n^2$.

EXERCISE IV.

1. $ab(x^2 + 1) + x(a^2 + b^2)$.
2. $6bx(a^2 + 1) - a(4x^2 + 9b^2)$.
3. $y^2z^2(x^4 - 1) + x^2(y^4 - z^4)$.
4. $a(a + 1)x^2 + (a + b)xy - b(b - 1)y^2$.
5. $a^3 + 8c^3 + 1 - 6ac$.

6. $x^8 + 81x^4 + 6561$.
7. $a^3 - b^3 - c^3 - 3abc$.
8. $a^3 + b^3 + 8c^3 - 6abc$.
9. $pn(m^2 + 1) - m(p^2 + n^2)$.
10. $(a^2 - 3a + 2)x^2 + (2a^2 - 2a - 1)x + a(a + 1)$.

TIME TABLE.

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P. S. LEAVING.

First Day—June 28th.

A.M. 8.45 .... Reading Regulations.
      9.00-11.00.... English Grammar.
      11.10-12.40.... Geography.
P.M. 2.00-4.00.... English Composition.

Second Day.

A.M. 9.00-11.00.... Arithmetic and Mensuration.
      11.10-12.20.... Drawing.
P.M. 1.30- 3.00.... History.
      3.10- 5.10.... Book-keeping & Penmanship.

Third Day.

A.M. 9.00-11.00.... Algebra and Euclid.
      11.10-12.30.... Physiology and Temperance.
P.M. 2.10- 4.00.... English Poetical Literature.

Reading may be taken on the above days at such hours as may suit the convenience of the examiners.