## THE ENTRANCE.

n - A demonstrative, pronominal e, simple.

tion-Singular number.

nction-Used attributively to modify "promise. Relation-" Promise is sweet." Promise.

Classification - A noun, common, abstract,

Inflection-Singular number, nominative case. Function-Used abverbially as subject of "is sweet."

6. Us. Relation-" Sings us."

Classification-A personal pronoun, simple. Inflection-First person, plural number, objective case.

Function—Used objectively as the indirect object of "sings."

In line (2) "can" is used as an auxiliary. In line (4) "can" is used independently. See H.S.G., chap. viii., sec. 138.

q. Find the square root of  $(x^2-3x+2)(x^2-4x+3)(x^2-5x+6)$ .

10. Find a number such that if three-eighths of it be subtracted from 20, and five-elevenths of the remainder from one-fourth of the original number, 12 times the second remainder shall be one-half the original number.

11. A farmer bought a certain number of sheep for £57. Having lost eight of them, he sold the remainder at 8s. a head more than they cost him, in order to make up the deficiency. How

many did he buy?

12. A merchant bought some pieces of silk for \$221. Had he bought 4 pieces more for the same money, he would have paid \$4 less for each piece. How many did he buy?

13. A father gave his son a certain sum, telling him that at the end of every year he would give him as much as he then had left; the son spent \$100 a year, and at the end of 4 years had nothing left. How much did he receive at first?

## Algebra.

#### EXERCISE I.

#### Factor the following:

1.	20x-4.	12.	$x^3 + 2x^2 - 8x - 16$ .
2.	$x^2 - 18x + 45$ .	13.	$x^3 + 4x^2 - 5x - 20$ .
3.	$12x^2 + x - 1$ .	14.	$x^{-3} - x^2 - 5x - 3$ .
4	$acx^2 - bcx + adx - bd$ .	15.	$x^3 + 3x^2 - 8x - 24$
5.	$a^3x - a^2bx - 6ab^2x.$	16.	$a^{3} - 5a^{2}x + 7ax^{2}$
6.	$2x^2 + 9x + 4$ .		$-3.1^{-3}$ .
7.	$3x^4 - 16x^3 - 12x^2$ .	17.	$x^4 + x^3 - 3x^2 - x + 2$ .
8.	$4x^3 - 3x^2 - 24x - 9$	18.	$2x^3 - 5x^2 + 11x + 7$ .
9.	$12x^3 - x^2 - 30x - 16$ .	19.	$6x^3 - 3x^3 - x^2 - x - 1$ .
10.	$x^3 - 2x^2 - 13x - 10$ .	20.	$3x^3 - 3ax^2 + 2a^2x - 2a^3$ .
II.	$x^{-3} - 5x^2 - 99x + 40$ .		$-2a^3$ .

#### EXERCISE II.

I.	$x^* + ax^3 + a^3x + a^4$	10.	$2x^{-3} + 7ax^{-4} + 4a^{-1}$
2.	$4x^3 - 10x^2 + 4x + 2$ .		$-3a^{3}$ .
3.	$x^3 + 3x^2 - 4$	II.	$a^3 + 2a^2 - 13a + 10$ .
4.	$x^3 + 3x^2 - 4$ . 729 $x^6 - y^6$ .	12.	$4x^4 + 11x^2 + 25$ .
5.	$10x^2 + 70x - 8$ .	13.	$1 + 2x^2 + x^3 + 2x^4$ .
6.	$3x^3 + 6x^2 - 189x$ .	14.	$x^3 - 5x^2 + 7x - 3$ .
7.	$a^3 - 8b^{15}$ .	15.	$3a^3 - 3a^2b + ab^2 - b^3$
8.	$x^4 - x^2 + 2x - 1$ .	16.	$5x^2 + 11x + 2$ .
9.	$m^3 - n^3 - m(m^2 - n^2)$	17.	$60x^2y + 32xy + 4y$ .
	$+n(m-n)^{2}$ .	18.	$x^4 + a^2x^2 + a^4$ .

### EXERCISE III.

1. Find two factors of x3n-y3m where m and n are positive integers.

2. Write the quotient of 16-81a4 divided by 2-37

3. Find two factors of  $x^3 - y^3 + 1 + 3xy$ .

4. Prove that

 $a(a+1)(a+2)(a+3)+1=(a^2+3a+1)^2$ . 5. Divide

 $(ac+bd)^2-(ad+bc)^2$  by (a-b)(c-d).

6. Find the product of

m-n-p-q and m+n+p+q. 7. Find the difference between the squares of 3503 and 3497

8. Multiply the square of the sum of the cubes of a and b by the cube of the sum of their squares.

# Bookkeeping.

EXERCISE VI. IN APPENDIX TO H. S. B-K. PAGE 215.

TO BE FULLY ANSWERED IN OUR NEXT BY SINGLE ENTRY.

1896.

April 15.—Commenced business, investing as follows: Cash on deposit in Bank of Commerce, \$1,000. Goods in stock, \$600. Rent for ½ month paid in advance, \$16. Office furniture on hand, \$40. I owe C. H. Laidlaw, on account, \$25.

April 16.-Bought of Turner & Sons, Toronto, goods as per invoice No .-, \$160. Remitted in payment a draft purchased per cheque. Exchange 25c. Paid freight per cheque, \$10. Cash sales, \$42.30.

April 17.—Sold C. H. Laidlaw on account, 15 yds. Can. tweed, at \$1.20; 5 yds. velvet, at \$1.70. Deposited in bank, cash, \$20. Paid cash for stationery, \$2 10. Cash sales, \$38.75.

April 18.—Sold M. Langham 100 yds. \( \frac{8}{4} \) sheeting, at 30c.; 25 yds. farmer's satin, at 50c. Received in payment an order on A. H. Wilson, which Mr. Wilson accepts. Cash sales, \$19.90.

April 21.—Deposited in bank, cash, \$25.

cash for coal oil, \$1.20. Cash sales, \$25.65.
April 22.—Lent K. L. Gibson cash, \$15.

General Hospital, per cheque, \$7.50. Cash sales, \$32.90.

April 24.-Bought of Caldwell & Co., Hamilton, on my acceptance, at 30 days, payable at the Bank of Montreal, goods as per invoice No.—, \$80. Paid freight per cheque, \$2.30. Cash sales, \$25. April 25.—A. H. Wilson settled his account in

full with his note at 10 days payable at the Bank of Commerce. Cash sales, \$42.60.

April 27.-Sold S. W. Perry, 120 yds. English tweed, at \$1.40. Received in payment his cheque on Bank of Ottawa for \$100, the balance on account.

Cash sales, \$19.75. April 29.—Deposited in bank, cash, \$30. Paid cash for delivering goods, \$1.20. Cash sales, \$27.85.

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