

6. "Humored." Give the grammatical relation.
 7. "Mistook." Explain the apparent violation of syntax. (See Abbott's Shakespearean Gram., Par. 843.)
 8. Derive "epitaph," "temples," "pomp," "impregnable," and "solemn."
 9. What part of speech is "self" in l. 23?
 10. What figures of speech in, "And yet not so," "All murdered," "Keeps Death his court."?

HAMLET'S SOLILOQUY ON DEATH—PAGE 488. BY D. S. PATTERSON, M.A.

1. "Take arms against a sea of troubles." Is this a mixed metaphor? Justify.
 2. What are the thoughts in Hamlet's mind as he utters, "to die—to sleep," in l. 5, and what different thoughts occur to him when he repeats these words in ll. 9 and 10?
 3. "There's the respect," "That makes calamity of so long life," "The proud man's contumely," "The law's delay," "The insolence of office," "quietus," "fardels," "bourn," "sicklied," "cast," "regard." Give the meaning of each expression or word.
 4. What enterprise or enterprises was Hamlet meditating at this time?
 5. Point out the figures of speech in the six last lines; scan these lines.
 6. Name the thirty-seven plays of Shakespeare, and divide them into Tragedies, Comedies, and Histories.
 7. Why are the dates 1616, 1623, 1632, 1649 to be remembered by the student of Shakespeare?
 8. What is an "historical play?" (NOTE.—"A collection of events borrowed from history, but connected together in respect of cause and time, poetically and by dramatic fiction. There should be no dramatic improbability. Men are presented in their causative character.")
 9. What is the rarest and most essential power in the dramatist? (NOTE.—"That of throwing himself dramatically into the conception of characters different from his own.")
 10. Name other dramatists of the Elizabethan age and some of modern times, mentioning their chief plays.

Mathematical Department.

Communications intended for this part of the JOURNAL should be on separate sheets, written on only one side, and properly pagged to prevent mistakes.
 ALFRED BAKER, B.A., EDITOR.

INTERMEDIATE EXAMINATION, DECEMBER, 1877.

ARITHMETIC.

Examiner: J. A. McLELLAN, LL.D.

NOTE.—100 marks will be reckoned a complete paper.

- Values.
4. Simplify $1\frac{1}{2} + 1\frac{1}{3} + 1\frac{1}{6}$ of $7\frac{1}{2}$, and
4. Reduce 8 oz. 6 dwt. $3\frac{1}{8}$ grs. to the fraction of a lb. troy.
8. Divide, to 6 decimal places, nine million eight hundred and forty thousand and eighteen 10-millionths, by one hundred and fifty-nine thousand nine hundred and eighty-two 100-millionths.
9. What will it cost to purchase bricks for a wall 150 feet long, 6 feet high, and 18 inches thick, bricks being worth \$6.25 per thousand, and each brick being (including mortar) 9 inches long, $4\frac{1}{2}$ inches wide, and 3 inches thick?
12. "Toronto, December 1st, 1876.—For value received I promise to pay A. B. \$1500 one year after date, with interest at eight per cent. per annum." This note is endorsed as follows:—January 23, 1877, \$400; August 20, 1877, \$500. Find the amount required to pay the note when due (no days of grace).
4. Explain the terms—Stocks, Shares, Dividends. When is stock at par? At a premium? At a discount?
7. A man having \$25,000 Dominion Bank Stock paying eight per cent. per annum, sells out at 120 and invests in Bank of Commerce stock, which is at 125, and pays eight and one-half per cent. Find the alteration in his income.
11. How much sugar at 8 cents, 9 cents, 10 cents, 13 cents, and 14 cents per pound, must be taken to form a mixture of 400 lbs., worth 12 cents per pound?

12. 7. A coin whose weight is $\frac{1}{10}$ of an ounce contains 37 parts in 40 of gold, and the rest is silver; gold being worth \$17 per ounce, and silver worth \$1.10 per ounce, find the value of the coin.
14. 8. If at Toronto sterling exchange is quoted at $10\frac{1}{2}$, and at Liverpool exchange on Paris is 26 francs 85 centimes per £1, find what a Toronto merchant, remitting through Liverpool, must pay to discharge a debt of 12,000 francs (brokerage included in the above quotations).
10. 9. If the diameter of a twenty-cent piece be to that of a twenty-five-cent piece as 10 to 11, find the ratio of their thickness.
15. 10. Two trains respectively 99 yds. and 132 yds. long, and moving on parallel rails, pass each other in $6\frac{1}{2}$ seconds when running in opposite directions; when moving in the same direction the one passes the other in $47\frac{1}{2}$ sec. Find their rates per hour.

ALGEBRA.

TIME—TWO HOURS AND A HALF.

Examiner: J. A. McLELLAN, LL.D.

NOTE.—Candidates, in order to pass, must make at least 20 marks on this paper, and at least 120 marks on the group—Arithmetic, Algebra, and Euclid.

Values.

3. 1. If $x=10$, $y=11$, $z=12$, find the value of $\left\{ \begin{matrix} x^2 - (y+z)^2 \\ (y-z)a^2 + (z-x)ab + (x-y)b^2 \end{matrix} \right\} \times \frac{x+y-z}{x+y+z}$; and subtract $= -117$
3. 2. Multiply $\frac{1}{2}x^{\frac{1}{2}} + \frac{1}{3}b^{\frac{1}{2}} - \frac{1}{4}c^{\frac{1}{2}}$ by $\frac{1}{2}a^{\frac{1}{2}} - \frac{1}{3}b^{\frac{1}{2}} + \frac{1}{4}c^{\frac{1}{2}}$
 Divide $a + (a+b)x + (a+b+c)x^2 + (a+b+c)x^3 + (b+c)x^4 + cx^5$ by $1+x+x^2+x^3 = a+b+c$
4. 3. Resolve into factors— $(x+y+z+a)^2 - (x-y-z+a)^2 = 4xy + 4xz + 4yz + 4ax + 4bx + 4cx$
 $2bc + 2ad$, and $20x^3 + 12ax^2 + 25bx^2 + 15abx$
 $-(a+d-b+c)(a+d-b-c)$
8. 4. Find the square root of $9 - 24x + 58x^2 - 116x^3 + 129x^4 - 140x^5 + 100x^6 = 3 - 4x + 7x^2 - 10x^3$
5. 5. Solve (1) $\frac{4x+5}{x+1} + \frac{x+5}{x+4} = \frac{2x+5}{x+2} - \frac{x^2-10}{x+3} + x = -2\frac{1}{2}$
 (2) $\frac{5x-1}{\sqrt{5x+1}} = 1 + \frac{\sqrt{5x+1}}{2} = \frac{1}{5} \text{ or } \frac{9}{5}$
 (3) $\frac{1}{2}x + \frac{1}{3}y + \frac{1}{4}z = 9$, $\frac{1}{3}x + \frac{1}{4}y - \frac{1}{2}z = -1\frac{1}{2}$, $\frac{1}{4}x - \frac{1}{2}y + \frac{1}{3}z = 1$, $y = 9$, $z = 12$
6. 6. A boy bought a number of oranges at the rate of 45 cents a dozen; if he had received 20 oranges more for the same money the whole would have cost him only 40 cents a dozen. How many did he buy? $13\frac{1}{2} \text{ doz}$
8. 7. A farmer took to market two loads of wheat, amounting together to 75 bushels; he sold them at different prices per bushel, but received on the whole the same amount for each load; had he sold the whole quantity at the lower price he would have received \$78.75; but had he sold it at the higher price he would have received \$90. Find the number of bushels in each load. $35 \text{ or } 40$
7. 8. Show how to find the square root of $a + \sqrt{b} = \sqrt{a + \sqrt{b}}$
 Find the square root of $1 + \sqrt{1-a^2} = \sqrt{1-a^2} + \sqrt{1-a^2}$
7. 9. Solve $\frac{6x+5}{2x-7} + \frac{4x-1}{x-2} = \frac{7x+1}{x-3}$; and find the value of a when $ax^3 - 36x + 81 = 0$ has equal roots. $5 \text{ or } \frac{1}{5}$
7. 10. If $\frac{a}{b} = \frac{c}{d}$, prove that $\frac{a+c}{b+d} = \sqrt{\frac{a^2+c^2}{b^2+d^2}}$, and that $\frac{a+b}{a-b} = \frac{\sqrt{ac} + \sqrt{bd}}{\sqrt{ac} - \sqrt{bd}}$
 $a = b\sqrt{c}$, $c = d\sqrt{b}$, $\frac{b\sqrt{c} + d\sqrt{b}}{b\sqrt{c} - d\sqrt{b}} = \frac{\sqrt{b} + \sqrt{c}}{\sqrt{b} - \sqrt{c}} = \frac{b+c}{b-c}$