

2. Add together the squares of '281 and '052; and multiply 1'285714 by 4'6.
3. Simplify  $\frac{\frac{1}{8} \text{ of } 1\frac{1}{2} + 1\frac{1}{8} \text{ of } 6\frac{1}{2} - 1\frac{1}{2} \text{ of } 5\frac{1}{2}}{\frac{1}{8} \text{ of } 1\frac{1}{8} \text{ of } 1\frac{1}{2}}$
4. Reduce £19, 12s., 5½d., to the decimal of £39, 17s., 4d.
5. The return of a business in which 3 people have invested \$150, \$260, and \$400 respectively, is \$50.62½. What is the share of each?
6. A merchant bought 1452 articles, ¼ of which he sells at a gain of 6 per cent., ⅓ at a gain of 8 per cent., and the remainder at a gain of 10 per cent. If he had sold the whole at a gain of 12 per cent. he would have gained \$106.48 more. Find the cost price of each article.
7. Find the simple interest on £750, 10s., 7½d., for 64 days at 6½ per cent. per annum.

### Algebra.

1. Simplify :  
 $a(b-c)^3 - a(b-c)(2b^2 - bc + 2c^2) + (ab + ac)(b^2 - c^2)$ ;  
 and find its value when  $a = 1, b = 2, c = 3$ .
2. Shew that if  $3x^7 - 5x^3 + 2$  be divided by  $x^3 + x - 2$ , the remainder will be divisible by  $x - 1$ .
3. Simplify :  

$$(1) \frac{x-1}{3} + \frac{x-1}{x-2} \div \frac{x+3}{7} - \frac{x+3}{x+4}$$

$$\frac{x+2}{4} + \frac{x+2}{x-3} \div \frac{x-2}{3} + \frac{x-2}{x-1}$$

$$(2) (ab^2c^3)^{\frac{1}{2}} \times (d^4c^{-1})^{\frac{1}{3}} \times (a^{-3}b^2c^2)^{\frac{1}{6}}$$
4. Solve the equations :  

$$(1) \frac{7x+1}{5} - \frac{17-2x}{3} = \frac{5x+1}{4}$$

$$(2) 5x - 3y = 3x + 5y = 51$$

$$(3) (3x-5)(2x-5) = (x+3)(x-1).$$

5. Divide  
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6. Find th  
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7. (1) Wt  
(a)  
(2) By  
(3) Fin

1. Define  
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2. Trace th  
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3. Find th

4. Prove :

(1) si

(2) si

5. Prove g  
sin B.

6. Shew th

7. If  $a =$   
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