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STANDARD VI.

SECOND SERIES

INSPECTORS'

# Arithmetical Questions

Specially compiled, from the *more difficult Questions*  
recently given by Inspectors in the various  
districts, for the

**NEW CODE, MARCH, 1885,**

BY

**W. WATSON,**

Author of First Series "Inspectors' Arithmetical Questions," "Quarterly Arithmetic," "Quarterly Arithmetical Cards," and "True Test Cards."



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FIRST SERIES  
INSPECTORS'

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# INSPECTORS' ARITHMETICAL QUESTIONS

(SECOND SERIES).

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## STANDARD VI.

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### PART I.

#### Ex. 1.

1. Simplify  $\frac{1\frac{3}{4} - \frac{7}{8} \text{ of } \frac{11}{14}}{\frac{5}{6} \text{ of } \frac{3}{5} \times 5\frac{1}{2}} \div (\frac{1}{8} \times \frac{1}{2})$ .
2. Multiply  $\cdot 36$  by  $3\cdot 6 \div \cdot 009$ .
3. A cask is  $\frac{5}{8}$  full, and after 16 galls. have been drawn it is found to be  $\frac{3}{8}$  full. How much will the cask hold?
4. Find the simple interest on £583 17s. 6d., at  $3\frac{3}{4}$  per cent. for 11 years 3 months.

#### Ex. 2.

1. Subtract 107·65 from 271·81, multiply the remainder by 6, and divide the answer by 1·9.
2. Divide the sum of  $2\frac{7}{19}$  and  $5\frac{3}{23}$ , by  $4\frac{2}{19}$ .
3. If  $\frac{3}{8}$  lb. of butter be worth 9d., what will  $\frac{15}{18}$  of a stone of butter be worth?
4. In what time will £637 10s. amount to £774 15s. 6d., at £3 16s. per cent. per annum?

2 *Inspectors' Arithmetical Questions.*

Ex. 3.

1. Simplify  $(\frac{3}{7} \times 1\frac{2}{3} \times 12\frac{1}{2}) \div (16\frac{2}{3} \div 2)$ .
2. If  $\cdot 5$  of £1 buys  $\cdot 4$  of a gallon, how much may be bought for £6 3s. ?
3. If  $\frac{5}{14}$  of a ton be worth £7 2s. 5d., find the value of  $3\frac{1}{7}$  cwts.
4. Find the amount of £637 10s. in 4 years 2 months, at 8 per cent.

Ex. 4.

1. Find the value of  $\frac{\cdot 0021 \times 3\cdot 0014}{\cdot 024}$
2. Divide  $9\frac{4}{11}$  of  $3\frac{2}{7}$ , by  $1\frac{8}{21}$  of 5.
3. When  $\frac{5}{8}$  of an estate is valued at £720, what would half the estate be worth ?
4. Find the simple interest on £500 for 3 years at  $2\frac{1}{2}$  per cent.

Ex. 5.

1. Divide  $(3\frac{1}{4} - \frac{5}{6}$  of  $\frac{4}{15})$  by  $(21\frac{1}{5} + \frac{3}{10} + 4\frac{1}{3}$  of 5).
2. Simplify  $1\cdot 26$  of  $66\frac{2}{3} + 5\frac{1}{8}$  of  $1\cdot 0375$ .
3. If a pint of water weigh 2·25 lbs., how many lbs. will 4·6 galls weigh ?
4. Find the simple interest on £540 10s. at  $4\frac{1}{2}$  per cent. for 4 months.



Ex. 6.

1. Multiply  $\cdot 6$  by  $\cdot 7$ , and divide the result by  $67\cdot 2$ .
2. Subtract three-ninths from one-half, and divide the remainder by five-sixths.
3. In what time can I mow  $\frac{1}{10}$  of a field, if I can mow  $\frac{1}{6}$  in 3 hrs. ?
4. At what rate per cent. will £1818 15s. gain £363 12s. in 5 years ?

Ex. 7.

1. Simplify  $387\frac{1}{2} + 285\frac{1}{4} + 394\frac{1}{3} + \frac{2}{5}$  of 3704. .
2. A person has  $\cdot 1875$  of a mine; he sells  $\cdot 17$  of his share; what fractional part of the mine has he still left ?
3. Find the cost of  $\cdot 085$  cwts. of coffee, if  $\cdot 0675$  lbs. cost 10s. 6d.
4. What sum of money will gain £25 10s. in 2 yrs. at 4 per cent. ?

Ex. 8.

1. What is the value of  $\cdot 2 + \cdot 001 - \cdot 17885) + (\cdot 225 - \cdot 001005) + 2\cdot 5$  ?
2.  $\frac{3}{4}$  of an estate is pasture,  $\frac{1}{12}$  arable, and the remainder, 14 acres in extent, is a swamp. What is the size of the estate ?
3. If 20 lamps are required to light a road 1800 yards long, how many will be necessary for a road  $4\frac{1}{2}$  miles long ?
4. What will £620 15s. amount to in 5 years at 3 per cent. ?

4 *Inspectors' Arithmetical Questions.*

**Ex. 9.**

1. Simplify  $\left(\frac{2\frac{2}{3}}{6\frac{1}{2}} \div \frac{16}{3\frac{1}{4}}\right) - \left(\frac{13}{17} \times \frac{4\frac{1}{3}}{49}\right)$
2. Find the value of £·5 + ·25 of a guinea + 3·25 of a crown + ·625 of a shilling.
3. In what time will £188 6s. 8d. amount to £192 2s. at 5 per cent. per annum?
4. If  $3\frac{3}{5}$  tons cost £39 7s. 6d., what will 4·89 cwts. cost?

**Ex. 10.**

1. Reduce £2 16s. 4d. to the decimal of a £.
2. Add together:— $500\frac{1}{4}$ ,  $62\frac{1}{3}$ ,  $79\frac{1}{8}$ , and  $14\frac{1}{16}$ .
3. If it cost 10s.  $0\frac{3}{4}$ d. to go  $34\frac{1}{2}$  miles, how much will it cost to travel 279 miles?
4. What principal will gain £45 8s.  $10\frac{1}{4}$ d. at 3 per cent. in  $6\frac{1}{4}$  years?

**Ex. 11.**

1. Find the value of  $\frac{4\frac{4}{15}}{5\frac{1}{5} - 4\frac{1}{2}}$  of £10.
2. Multiply ·015 by 2·1, and divide the product by ·035.
3. Find the interest of £406 13s. 4d. for  $4\frac{1}{2}$  years at  $4\frac{1}{2}$  per cent.
4. If  $\frac{5}{9}$  of an estate cost £379 16s. 8d., how much is the whole worth?

**Ex. 12.**

1. What is the value of  $\cdot 625$  of 3 miles 3 fur. 92 yards?
2.  $\text{£}3\frac{5}{8} + 9\frac{3}{16}\text{s.} + 5\frac{3}{4}\text{d.} - \frac{3}{10}$  of a crown.
3. A woman spends  $\frac{2}{7}$  of her money at the butcher's,  $\frac{1}{3}$  at the grocer's, and  $\frac{2}{9}$  at the baker's; she has 4s. 2d. left; how much had she at first?
4. Find simple interest on  $\text{£}346$  15s. for  $2\frac{1}{4}$  years at 5 per cent.

**Ex. 13.**

1. After payment of one half of a debt it is found that  $\frac{3}{8}$  of what is still due is a guinea. Find the amount of the debt.
2. Multiply  $\cdot 12$  by  $\cdot 12$ , and divide the product by  $\cdot 0036$ .
3. Find the interest of  $\text{£}671$  19s. 6d. for 9 months at  $4\frac{1}{2}$  per cent.
4. How much tea at 3s. 4d. per lb. should be given in exchange for 100 lb. at 4s. 8d. per lb.?

**Ex. 14.**

1. Reduce 2 cwts. 1 qr. 14 lbs. to the decimal of a ton.
2. A lady spent  $\frac{1}{5}$  of her money in one shop,  $\frac{1}{8}$  in another, and had  $\text{£}3$  7s. 6d. left. How much had she at first?
3. A field measures 19·065 acres, and yields 37·56 bushels per acre; what is the crop in qrs.?
4. In what time will  $\text{£}250$  double itself at 5 per cent.?



**Ex. 15.**

1. Simplify  $\frac{2}{9}$  of  $1\frac{2}{3}$  of  $2\frac{2}{5}$   
 $\frac{7}{9} + \frac{5}{12} - \frac{3}{4}$ .
2. Multiply  $\cdot 1$  by  $\cdot 1$ , and divide the product by  $\cdot 0054$ .
3. Find the interest on £367 10s. for 5 years at  $5\frac{1}{2}$  per cent.
4. At £3 4s. per cwt. find cost of 2 qrs. 18 lb. 10 oz. 8 drs.

**Ex. 16.**

1. Reduce 12s. 11d. to the decimal of 3 guineas.
2. Reduce  $\frac{7}{10}$  of  $\frac{2}{3}$  of £5 to the fraction of £7 10s.
3. If three fires can be kept in for 5 months with four tons of coal, how many will 11 tons 3 cwt. 2 qrs. of coal supply for the same period?
4. Find the amount of £90 for 4 years at  $2\frac{1}{2}$  per cent.

**Ex. 17.**

1. Simplify  $3\frac{1}{2} + \frac{\frac{1}{4} \text{ of } 2\frac{1}{3}}{2\frac{1}{4} - 1\frac{1}{2}} - 2\frac{1}{3}$ .
2. A man has £3150 in hand, after having lost  $\cdot 6$  of his property in a farm. What was he worth at first?
3. At what rate per cent. will £250 amount to £300 12s. 6d. in  $4\frac{1}{2}$  years?
4. A field containing 57 acres 34 poles was sold at the rate of £84. 6s. 8d. per acre; what did it fetch?

*Inspectors' Arithmetical Questions.*

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**Ex. 18.**

1. Find the value of  $\cdot 1789$  of a guinea +  $\cdot 3888$  of a £  
-  $\cdot 1$  of a crown.
2. Add together  $\frac{2}{9}$  of 2 guineas,  $\frac{5}{16}$  of £7 4s., and  $\frac{7}{18}$  of  
6 guineas.
3. If 245 articles cost £17·53, what will 17·4 cost?
4. In what time will £1300 amount to £1482 at  $3\frac{1}{2}$  per  
cent?

**Ex. 19.**

1. Divide  $\frac{2\frac{4}{11}}{2\frac{3}{5}}$  by  $\frac{2\frac{7}{11}}{8\frac{7}{10}}$ .
2. If  $\cdot 5625$  of a lb. be worth 2s., what is the value of  $\cdot 75$   
of a cwt.?
3. In what time will £305 amount to £388 17s. 6d. at 5  
per cent. per annum?
4. Find cost of 5 cwt. 2 qrs. 6 lb. at 1s. 9d. per stone.

**Ex. 20.**

1. Add together  $\cdot 003$ ,  $2\cdot 3125$ ,  $1\cdot 46875$ ,  $19\cdot 3$ , and multiply  
their sum by  $\cdot 029$ .
2. Simplify  $\frac{9}{8} + \frac{4}{5} + \frac{2}{3} - \frac{1}{4}$   
 $\frac{5}{8}$  of  $\frac{3}{10}$  of  $2\frac{1}{2}$  of 5
3. James had a bag of marbles. He gave  $\frac{1}{7}$  of them to  
William and  $\frac{1}{8}$  to Tom; he lost  $\frac{1}{6}$  and had 66 left.  
How many had he at first?
4. A person puts out £1250 to interest at  $4\frac{1}{4}$  per cent.;  
what yearly income does he receive from it?

## Ex. 21.

1. Simplify  $2\frac{1}{3} + \frac{\frac{4}{5} \text{ of } 2\frac{1}{2} - \frac{2}{3}}{4\frac{1}{5} - 2\frac{3}{10}}$ .
2. Divide the sum of  $\cdot 0014$  and  $\cdot 02$  by their difference.
3. In what time will £365 amount to £424 6s. 3d. at  $3\frac{1}{4}$  per cent. simple interest?
4. What must I pay for 15 lbs. of tea, if 19 ounces cost 4s.  $4\frac{1}{2}$ d.?

## Ex. 22.

1. Add  $5\frac{1}{2}$  cwts. to  $3\cdot 125$  qrs., and reduce the sum to the decimal of a ton.
2.  $(\frac{2}{9} + \frac{4}{7} + \frac{3}{8} + \frac{5}{12}) \div \frac{1}{252}$ .
3. If 4·5 articles cost £5 12s. 0d., what will be the cost of 8·375?
4. Find the simple interest on £888 for  $4\frac{1}{2}$  years at  $4\frac{1}{4}$  per cent. per annum.

## Ex. 23.

1. Divide  $\frac{2}{5}$  of  $5\frac{1}{3}$  by  $2\frac{2}{5}$  of  $8\frac{1}{3}$ .
2. Add together 1·3 of a ton,  $\cdot 001$  of a cwt.,  $\cdot 93$  of a quarter, and express the answer in lbs.
3. At what rate per cent. simple interest will the interest of £375 amount to £63 5s.  $7\frac{1}{2}$ d. in  $4\frac{1}{2}$  years?
4. A post 6 ft. high gives a shadow  $4\frac{1}{2}$  ft. long; what will be the height of a tower whose shadow measures 132 ft.?



**Ex. 24.**

1. Find the vulgar fraction equivalent to  $\cdot 9\dot{9} + \cdot 45 + \cdot 17$ .
2. Simplify  $\frac{2\frac{4}{5} + 3\frac{5}{8} + 2\frac{9}{10}}{\frac{3}{8} \times \frac{5}{7} \times \frac{1}{6} \times 4}$ .
3. A man sold  $\frac{5}{8}$  of  $\frac{1}{17}$  of a ship for £2,500. What was the vessel worth?
4. Find the simple interest on £198 6s. 8d., for 3 years, at  $3\frac{1}{2}$  per cent.

**Ex. 25.**

1. Simplify  $3\frac{1}{2} + \frac{\frac{7}{4} \text{ of } 2\frac{1}{3}}{\frac{1}{4} \div 1\frac{1}{2}} - 2\frac{1}{3}$ .
2. Find the sum of  $\cdot 175$  of a ton,  $\cdot 195$  of cwt., and  $\cdot 145$  of a qr., and give the answer in lbs.
3. At what rate per cent. will £157 15s. 4d. amount to £295 16s. 3d. in 25 years, simple interest?
4. If 9 men can do a piece of work in 5 days, how long will it take 15 men to do another work twice as great?

**Ex. 26.**

1. Add together  $\cdot 18$  of a florin and  $\cdot 136$  of a crown.
2. Add together  $\frac{1}{5}$ ,  $\frac{3}{4}$ ,  $\frac{4}{10}$ ,  $\frac{5}{8}$ , and from the sum take  $\frac{4}{5}$ .
3. If 5.5 articles cost £1 5s., what will 8.125 cost?
4. What principal will yield an interest of £480 in 2 years at 4 per cent.?

10 *Inspectors' Arithmetical Questions.*

Ex. 27.

1. Find the value of  $\frac{7.56}{.036} \div \frac{4\frac{1}{2}}{3}$  of .0075 tons; give the answer in lbs.
2. Simplify  $\frac{21\frac{7}{8}}{\frac{9}{14} + \frac{5}{6}}$ .
3. At what rate per cent. per annum will a sum of £100 double itself in 4 years?
4. If an income of £149 10s. is taxed at the rate of 5d. in the pound, how much clear income will remain after the tax is paid?

Ex. 28.

1. Divide  $3.7 + .37 + 37.0592 + .0007$  by 13.475 to four places of decimals.
2. Subtract the product of  $1\frac{5}{13}$  and  $5\frac{4}{7}$  from 12.
3. A man invested  $\frac{4}{5}$  of his money in houses, and  $\frac{1}{5}$  in land; he had then £350 left; what is he worth?
4. Find the simple interest on £73 15s. 9d. at  $3\frac{1}{2}$  per cent. for one year.

Ex. 29.

1. Simplify  $5\frac{3}{4} + \frac{3}{5}$  of  $7\frac{1}{2} + 8\frac{3}{10}$ .
2. Divide 144 by .0012, and multiply the result by .0789.
3. Find the interest of £217 18s. for 3 years at  $3\frac{1}{2}$  per cent. per annum.
4. What will be the cost of 4 hogsheads of sugar, each weighing 2 cwt. 8 qrs. 17 lbs., if 3 qrs. 16 lbs. cost £1 13s. 4d.?

Ex. 30.

1. Divide  $\cdot63815$  by  $\cdot25$ , and multiply the quotient by  $\cdot005$ .
2. From  $\frac{7}{16}$  of a ton take  $\frac{27}{8}$  of a cwt.
3. If 125 tons cost £39·51, what will 6·8 tons cost?
4. At what rate per cent. will £311 10s. amount to £316 0s. 10 $\frac{1}{4}$ d. in 7 months?

Ex. 31.

1. Add together  $\frac{3}{5}$  of 6s. 8d.,  $\frac{5}{7}$  of £2 3s. 9d., and  $\frac{9}{11}$  of £4 14s. 5d.
2. Find the value of  $\frac{3\frac{1}{2} - \cdot04}{5\cdot0625}$  in decimals.
3. In what time will £100 double itself at 2 $\frac{1}{2}$  per cent. per annum?
4. If 4 men or 11 boys can complete a piece of work in 52 days, in what time will 13 men be able to do the same work?

Ex. 32.

1. From  $\cdot827$  take  $\cdot09365$ , and then multiply by  $\cdot63$ .
2. From  $\frac{17}{18}$  take  $\frac{1}{4}$  of  $\frac{7}{8}$ , and express the result as a decimal fraction.
3. If 40 ozs. of silk make a thread 2 furlongs long, what weight of silk would supply a thread to reach to the sun, 95,000,000 of miles?
4. Find the simple interest on £1248 12s., for 5 years at 3 $\frac{1}{2}$  per cent.



12 *Inspectors' Arithmetical Questions.*

Ex. 33.

1. Simplify  $3\frac{1}{2} + \frac{\frac{1}{4} \text{ of } 2\frac{1}{3}}{\frac{1}{4} \div 1\frac{1}{2}} - 2\frac{1}{3}$ .
2. A person sold  $\cdot 12$  of an estate to one person, and  $\cdot 4$  to another; he sold the remainder of the estate for £4000. What was the value of the whole estate?
3. In what time will £240 amount to £400 at 4 per cent?
4. In a school  $\frac{2}{5}$  of the number on the register are boys;  $\frac{3}{10}$  girls, and 120 infants. How many boys and girls are there?

Ex. 34.

1. Reduce  $\cdot 4672$  to a vulgar fraction, and multiply the result by  $7\frac{4}{16}$ .
2. Simplify  $\frac{\frac{2}{3} \text{ of } \frac{5}{6} - \frac{1}{4}}{\frac{5}{9} + \frac{2}{3} \text{ of } \frac{7}{8}} \div 55$ .
3. If  $\cdot 7$  of a house cost £29 8s. 7d., what share will be worth £15 10s. 4d.?
4. What sum will amount to £1936 11s. in 3 years at 4 per cent.?

Ex. 35.

1.  $(\frac{3}{4} \text{ of } \frac{1}{4} \text{ of } 7) \div (\frac{1}{2} - \frac{1}{3} \text{ of } 1)$ .
2. Divide the product of 16·004 and ·098, by the difference between  $\frac{5}{9}$  and  $\frac{1}{3}$ .
3. A merchant bought 1763 yards of cloth at 5s. 3½d. per yard, and retailed it at 6s. 11d. per yard; what was his profit?
4. What will be the rate per cent. per annum simple interest, if £150 amount to £160 in 73 days?

## STANDARD VI.

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### PART II.

#### A 1.

1. What is the difference between  $\frac{7}{8}$  of £9 11s. 10d., and  $\frac{5}{6}$  of £10 3s. 10½d.
2. Divide 4·8 by ·0016, and multiply the quotient by ·079.
3. In  $3\frac{2}{5}$  hours a train travels  $87\frac{39}{40}$  miles. What is its rate per hour?
4. What is the interest on £115 16s. 8d. for  $2\frac{1}{5}$  years at  $5\frac{1}{2}$  per cent.?

#### A 2.

1. Multiply 8·056 by ·0086, and divide the product by ·0043.
2. What fraction of £2 6s. 8d. is  $\frac{1}{24}$  of 10s.?
3. If a person travelling  $13\frac{3}{4}$  hrs. a day, perform a journey in  $27\frac{5}{8}$  days, in what time will he perform the same if he travel  $10\frac{2}{7}$  hrs. a day?
4. What sum of money will gain £59 13s. 1½d. in  $3\frac{3}{4}$  years at  $2\frac{1}{2}$  per cent.?

14 *Inspectors' Arithmetical Questions.*

A 3.

1. A person possessing  $\frac{2}{5}$  of a coal mine sells  $\frac{3}{4}$  of his share for £2,000; what is the value of the whole mine?
2. Divide  $\cdot0006336$  by  $\cdot144$  and multiply the quotient by  $\cdot009$ .
3. What is the interest on £250 for 9 months, at 3 per cent. per annum?
4. If  $\frac{1}{8}$  of a ship be worth £36 10s.  $7\frac{1}{2}$ d., what share will cost £125 5s.?

A 4.

1.  $\left\{ (\cdot0894 \times \cdot0896) - \cdot0042 \right\} \div 12$ .
2. To  $\frac{3}{4}$  of sixpence add  $2\frac{3}{4}$  crowns, and reduce the sum to the fraction of half-a-sovereign.
3. If I get  $\cdot5$  lbs. of mutton for  $\cdot3$  of 2s. 6d., how much shall I give for 18·4 lbs.?
4. What principal will amount to £300 16s. in 4 years at 5 per cent.?

B 1.

1. Find the value of  $\frac{3}{4}$  of a shilling,  $\frac{7}{8}$  of a crown, and  $\frac{5}{14}$  of a guinea.
2. Add together 1·23 of a crown, 5·37 of a florin, and give the answer in pence.
3. Find the interest on £2346 for 9 years 7 months at  $4\frac{3}{4}$  per cent. per annum.
4. Of what sum of money is a hundred guineas the  $\frac{9}{50}$ ?



B 2.

1. Divide 2.475 by .25, and express the answer as a vulgar fraction.
2. What fraction of a pound remains after taking  $\frac{4}{5}$  of £2 10s. from  $\frac{2}{3}$  of £5?
3. If 8 ozs. cost .5625 of a shilling, what will .75 of a ton cost?
4. In what time will the interest on £605 be £40 16s. 9d. at  $2\frac{1}{4}$  per cent.?

B 3.

1. At a concert  $\frac{3}{18}$  of the audience paid 5s. for their seats,  $\frac{1}{12}$  paid 2s. 6d. each,  $\frac{2}{5}$  paid 1s. each,  $\frac{1}{4}$  paid 6d. each, and the remaining 38 were let in free. How many attended the concert, and what amount of money was taken?
2. If .75 lbs. cost £60, what is the price of 13.25 lbs.?
3. Find the simple interest on £451 17s. 6d. for  $4\frac{1}{2}$  years at  $2\frac{1}{4}$  per cent.
4. If one cwt. of sugar can be bought for 28s., at what price per lb. must it be sold so as to gain £1 15s. on  $2\frac{1}{2}$  cwt.?

B 4.

1. Multiply .076 by 8.45, and divide the product by .342.
2. Find the sum and difference of  $\frac{3\frac{1}{4}}{6\frac{1}{2}} \times 10.5$ , and  $15\frac{3}{4} \div \frac{7}{9}$ .
3. A cistern can be filled by one pipe in 5 hrs., and emptied by another in 6 hrs. ; if both pipes are open together how long will the cistern take to fill?
4. At what rate per cent. will £2833 6s. 8d. amount to £3215 16s. 8d. in  $4\frac{1}{2}$  yrs.?

16 *Inspectors' Arithmetical Questions.*

C 1.

1. Find the value of ( $\frac{1}{3}$  of £1 +  $\frac{2}{3}$  of a guinea -  $\frac{4}{9}$  of 15s.)  $\times \frac{31}{32}$ .
2. Divide the sum of .5 and .05 by their difference.
3. What is the simple interest for 9 years 4 months on £120 5s. at  $3\frac{1}{2}$  per cent. per annum?
4. After selling  $\frac{3}{10}$  of a piece of cloth there were ten and a half yards left; what was the original length of the cloth?

C 2.

1. Divide  $\frac{5}{8}$  of 6.1136 by .025, and take 4.562 from the quotient.
2. Add together  $\frac{7}{8}$  of £1,  $\frac{3}{4}$  of  $\frac{1}{2}$  of 2s. 6d.,  $3\frac{2}{3}$  of a shilling, and  $\frac{7}{8}$  of 2d.
3. If a man spend  $\frac{5}{7}$  of his income in board and lodgings, and .125 in dress and amusements, he then saves £117 per annum; what is his income?
4. What amount of capital put out at simple interest at  $3\frac{1}{2}$  per cent. will produce £59 1s. 3d. interest in  $2\frac{1}{2}$  years?

C 3.

1. Multiply  $\frac{2\frac{1}{2}}{3\frac{1}{3}}$  by  $\frac{2\frac{1}{3}}{3\frac{1}{2}}$  and add  $\frac{1}{2\frac{1}{2}} - \frac{2}{7}$  to the result.
2. A man having given  $\frac{5}{9}$  of the money in his purse for a sheep, and .375 of the remainder for a goat, had £1.6875 still left; what sum had he at first?
3. What sum will produce for interest £35 in 4 years, at  $2\frac{1}{2}$  per cent. simple interest?
4. If two-thirds of a pound of tea be worth 1s. 4d., find the cost of a two-ounce packet.

C 4.

1. Reduce  $\cdot345$  of £20 16s. 4d. to the decimal of £5.
2.  $\frac{3}{8}$  of a furlong +  $\frac{1}{11}$  of a yard +  $\frac{5}{12}$  of 7 ft. and express the result as the decimal of a mile.
3. A. owns a vessel, and sells  $\frac{3}{11}$  of  $\frac{2}{9}$  of it for  $\frac{400}{33}$  £; what was the value of  $\frac{2}{9}$  of  $1\frac{1}{4}$  of it?
4. What sum of money must be put out at simple interest at  $4\frac{1}{4}$  per cent. to amount to £1425 in 10 years?

D 1.

1. Simplify  $\frac{\frac{1}{2} + 1\frac{1}{5} + 2\frac{1}{6}}{\frac{1}{2} \text{ of } 1\frac{3}{5} - \frac{1}{3} \text{ of } \frac{4}{5}} \times (\frac{2}{3} \div \frac{1}{6})$ .
2. Find the value of  $\cdot3$  of a guinea +  $\cdot125$  of a pound +  $\cdot25$  of a shilling +  $\cdot5$  of a penny +  $\cdot6$  of half-a-crown.
3. What sum of money put at 10 per cent. will produce £12 10s. for interest in 10 days?
4. If  $\frac{1}{13}$  of a bank were worth a quarter of a million sterling, find the value of  $\frac{3}{2}$  of it.

D 2.

1. Add together  $5\cdot086$ ,  $15\frac{3}{4}$ ,  $560$ ,  $7\cdot468$ ,  $27\frac{1}{3}$ , giving the answer in decimals.
2.  $(\frac{2}{19} \text{ of } 4\frac{3}{4}) + \frac{1}{5} + (\frac{11}{14} \text{ of } \frac{7}{25} + \frac{3}{40})$ .
3. If  $\frac{3}{7}$  of 24 lbs. cost  $\frac{19}{3}$  of 5s., what quantity can be purchased for £203 $\frac{5}{8}$ ?
4. I invested £986 10s. in property and received £73 19s. 9d. as interest every year; at what rate per cent. is my investment?

18 *Inspectors' Arithmetical Questions.*

D 3.

1. How many times does the sum of  $22\frac{1}{3}$  and  $13\frac{4}{5}$  contain their difference?
2. Find in pounds, shillings, and pence, a quarter's rent of 27.832 acres of land at £1.125 per acre.
3. Find the simple interest on £108 3s. 6d. from January 9th, 1868, to April 23rd, 1869, at  $2\frac{1}{2}$  per cent.?
4. How many yards of ribbon at £.125 per yard, can be bought for five guineas?

D 4.

1. If .38 tons cost £7.64, what will 12 cwts. 2 qrs. cost?
2. Simplify  $\frac{2}{3}$  of  $\frac{4}{5}$  of  $1\frac{2}{3}$  of  $\frac{9}{16}$  of £2 5s. 6d.
3. My share of a mill is £5472. If this is equal to  $\frac{4}{9}$  of the whole, what is the value of  $\frac{5}{16}$  of the whole?
4. A man has £1250 invested at  $7\frac{1}{2}$  per cent., £2750 at  $4\frac{1}{2}$ , and £580 at  $3\frac{1}{2}$ ; what will he receive in a year?

E 1.

1. Find the value of  $\frac{\frac{7}{9} \times \frac{9}{11}}{1\frac{2}{9} \div \frac{11}{12}}$  of  $\frac{3}{10}$  of £5.
2. What fraction should be multiplied by  $3\frac{1}{5}$  of  $3\frac{1}{8}$  to produce 3? Reduce the answer to a decimal.
3. The simple interest on £525 for  $2\frac{1}{2}$  years is £52 10s.; find the rate of interest.
4. If  $\frac{11}{16}$ ths of a ship be worth £1500, find the value of a fleet of twelve ships.

E 2.

1. .45 cwt. cost £4.75, what will 4 tons 5 cwts. cost?
2. Find the sum of  $\frac{1}{2}$  of 7s. 9d. +  $\frac{1}{4}$  of 3s. 6d. +  $\frac{1}{5}$  of 17s. 6d. and .25 of £3.
3. If  $\frac{3}{4}$  of  $\frac{5}{8}$  of a share be worth £24 $\frac{1}{4}$ , what will be the value of 14 $\frac{7}{10}$  shares?
4. What sum of money at 4 per cent. will amount to £480 in 6 years?

E 3.

1. Simplify :—  $\frac{\frac{1}{4} \text{ of } \frac{1}{2} \text{ of } 3 + 7\frac{2}{3}}{7\frac{2}{3} - \frac{1}{4} \text{ of } \frac{1}{2} \text{ of } 3}$ .
2. Find the continued product of 35.7, 3.57, and .357; and divide the result by .0357.
3. Required the simple interest on £410 laid out from March 11 to November 15 at 3 $\frac{1}{2}$  per cent.
4. If 5 $\frac{3}{8}$  - 4 $\frac{3}{4}$  of a house cost £580, what will  $\frac{1}{2}$  of  $\frac{3}{4}$  of it cost?

E 4.

1. Divide the difference between 9.87 and .987 by the sum of .26 and .04.
2. Simplify :—  $\frac{(3\frac{1}{7} \text{ of } 11\frac{5}{11}) + (3\frac{6}{7} \times 2\frac{1}{3})}{(11\frac{4}{5} \times 5\frac{2}{31}) - (10\frac{4}{5} \div \frac{3}{5})}$
3. After walking 30 $\frac{2}{3}$  miles I find I have only finished  $\frac{5}{12}$  of my journey; what distance have I still to walk?
4. If I put £9450 out to interest at the rate of 6 $\frac{1}{3}$  per cent., how much shall I realise in 4 years?



## F 1.

1. Find the value of  $\frac{\frac{4}{5} \text{ of } 3\frac{1}{6}}{\frac{2}{3}}$  of £5.
2. Find the sum of  $\cdot\dot{5} + \cdot\dot{2}\dot{5} + 17\cdot4\dot{7} + 9\cdot\dot{6}\dot{5}\dot{1} + 67\cdot34\dot{5}$ .
3. Given the principal £375, the interest £3 2s. 6d., and the rate per cent.  $2\frac{1}{2}$ , what will be the time?
4. A man who owns a farm sells  $\frac{3}{8}$  of  $\frac{4}{11}$  of it; he then has 63 acres 3 roods left. Find the area of the farm?

## F 2.

1. Find the product of the sum and difference of  $\cdot\dot{3}$  and  $\cdot\dot{3}$ .
2. Find the value of  $\frac{1\frac{5}{6}}$  of 3s. 4d. +  $2\frac{1}{2}$  of 10s. 6d. +  $\frac{4}{5}$  of 10s. +  $\frac{1}{5}$  of £4 +  $\frac{5}{8}$  of 2s. -  $\frac{2}{15}$  of £10.
3. How much paper can be bought for £6 2s, if the cost of 20·83 reams be £31·25?
4. In what time will £840 amount to £1008 at 5 per cent. per annum?

## F 3.

1.  $(1\frac{2}{3} + \frac{1}{9})$  of 9s. +  $(\frac{4}{5} - \frac{2}{3})$  of 15s. -  $\cdot875$  of £1.
2. Reduce  $\frac{\cdot6 \times 2\cdot625}{3\cdot1875 - 2\cdot75}$  to a vulgar fraction.
3. The principal is £433 6s. 1d., the interest £8 18s. 9d., and the time 9 months; what is the rate per cent.?
4. Six persons are boarded 10 mths. for £106; how many months may they be boarded for £360 8s.?

F 4.

1. Add together  $1\cdot2378$ ,  $6\cdot19$ ,  $192\cdot2356$ ,  $\cdot61$ ,  $\cdot834$ , and  $\cdot0002$ , correct to 6 decimal places.
2. What must be added to  $\frac{7}{10} + 1\frac{5}{8} + 3\frac{4}{7} + 10\frac{7}{12}$  to make 20 ?
3. How much land may be rented for £43·75, when 9·6875 acres are rented for £56 10s. 2½d. ?
4. If the bank rate be  $2\frac{3}{4}$  per cent. how much should I receive on £40 for three months ?

G 1.

1. What fraction of  $\frac{5}{12}$  of 9 florins is  $\frac{7}{8}$  of 1 crown ?
2. If  $1\frac{3}{4}$  lbs. of sugar cost  $\cdot03515625$  of 50s., what is the value of  $\cdot3125$  cwt. ?
3. Find what £235 13s. 4d. will amount to in 219 days at  $3\frac{3}{4}$  per cent.
4. A man who owns  $\cdot9$  of a vessel, and sells  $\cdot375$  of his share for £855, find the total value of the vessel.

G 2.

1. What number must I multiply by  $\cdot0048$  to produce  $\cdot000310608$  ?
2. Convert the sum of  $\frac{1}{5} + 1\frac{7}{8} + 1\frac{13}{20} + 1\frac{3}{40} + 4\frac{49}{500} + 3\frac{7}{50}$  into a decimal.
3. A farmer pays to one workman  $\frac{1}{3}$  of his money, and to another  $\frac{4}{5}$  of the remainder. He then has £10 left; what had he at first ?
4. What would 10 guineas amount to in 10 years at 10 per cent. ?

22. *Inspectors' Arithmetical Questions.*

G 3.

1.  $\frac{2}{9}$  of 10s. 6d. +  $\frac{3}{7}$  of 21s. + 4.55 of £5.
2. Divide the product of the sum and difference of .6 and .06 by 27.
3. In what time will £50 double itself at  $3\frac{3}{4}$  per cent. ?
4. A. can make a suit of clothes in 5 days, and B. in 4 days. How long would it take to make the suit, both working together ?

G 4.

1. Find the value in lbs. of .625 tons + 3.75 cwts. + 4.875 qrs. + 3.5 lbs.
2. Multiply the sum of  $\frac{2}{3}$  and  $\frac{5}{9}$  by the difference between  $\frac{3}{5}$  and  $\frac{1}{20}$ .
3. If  $1\frac{3}{7}$  of  $\frac{3}{40}$  of  $1\frac{3}{4}$  of a ton is worth £4 10s., what is the value of  $1\frac{1}{5}$  ton ?
4. If £500 became £625 in 6 years, what was the annual rate of interest ?

H 1.

1.  $\frac{\frac{7}{8} \div \frac{8}{9}}{\frac{3}{5} \text{ of } \frac{1}{7}}$  of  $\frac{1}{7}$  of £10.
2. Reduce  $\cdot 36\dot{3}$  of £2 1s. 3d. to the decimal of  $\cdot 7\dot{2}$  of £3 6s. 0d.
3. In  $21\frac{1}{2}$  yrs. £229 10s. amounts to £258 3s. 9d. ; what is the rate per cent. ?
4. If 27 sheep are grazed in a field for 112 dys., how many could have grazed in the same for 48 days ?

H 2.

1.  $\cdot 075 \times \cdot 075 \times \cdot 075$  and divide the product by  $\cdot 1$ .
2. Multiply 14s.  $7\frac{7}{16}$ d. by eleven, and subtract 19s.  $10\frac{2}{3}$ d. from the result.
3. If  $\frac{2}{5}$  of a business is worth £1500, what is half the business worth?
4. Find the interest on £320 15s. for 3 wks. 5 days at 5 per cent. per annum.

H 3.

1. Find the value of  $\frac{\frac{3}{4} \text{ of } \frac{4}{5}}{\frac{3}{4} \div \frac{4}{5}}$  of  $1\frac{1}{4}$  of £7 11s. 6d.
2. Reduce 3 pecks 1 gall. 5 pts. to the decimal of a bushel.
3. Find the simple interest on £200 $\frac{1}{4}$  for  $5\frac{1}{2}$  years at  $3\frac{1}{4}$  per cent. per annum.
4. If either 5 oxen or 7 horses eat up the grass of a field in 87 days, in what time will 2 oxen and 3 horses eat up the same?

H 4.

1. Find the continued product of 203, 2·03 and ·00203.
2. By how much is the sum of  $\frac{5}{14} + \frac{5}{8} + \frac{1}{6}$  less than the difference between  $2\frac{2}{7}$  and  $5\frac{2}{3}\frac{3}{2}$ ?
3. If 8 cwts. 3 qrs. 16 lbs. of butter cost £72 12s. 6d., find the price of  $\frac{1}{2}$  cwt.
4. What is the interest on £246 for 9 months at 3 per cent. per annum?

24 *Inspectors' Arithmetical Questions.*

J 1.

1. Reduce  $\frac{5}{8}$  of 4d. to the fraction of £1 1s.
2. What decimal of 4s. 6 $\frac{3}{4}$ d. is 1s. 6 $\frac{3}{4}$ d. ?
3. Find the amount, at simple interest, of £373 16s. 11 $\frac{1}{2}$ d. at 6 per cent. per annum for 8 years.
4. If  $\frac{3}{5}$  of 2 $\frac{1}{2}$  yds. be worth  $\frac{3}{7}$  of 5 guineas, what is the value per yard ?

J 2.

1. Add together, 8·462̄, 27·4936̄, 56·73412̄, ·86734, 92·104̄.
2. Find the value of 11 $\frac{1}{2}$ d. + 10 $\frac{3}{8}$ d. + 9 $\frac{3}{4}$ d. + 8 $\frac{4}{5}$ d. + 7 $\frac{5}{8}$ d. + 6 $\frac{6}{7}$ d. + 5 $\frac{5}{8}$ d. + 4 $\frac{4}{9}$ d.
3. A man's income is £1385, and he pays £11 10s. 10d. income tax. How much does he pay in the pound ?
4. Find the amount of £651 15s. for 3 $\frac{1}{3}$  years at 4 $\frac{2}{7}$  per cent. per annum.

J 3.

1. What fraction of 5 miles is  $\frac{8}{9}$  of a furlong ?
2. Reduce  $\frac{2}{5}$  of 1 $\frac{2}{3}$  of  $\frac{3}{7}$  of a guinea to the decimal of £2 14s.
3. Find the interest on £685 10s. 6d. for 2 years 200 dys. at 4 per cent. per annum.
4. Find the cost of 11 stones 10 lbs. of bacon, when 7 stones 6 lbs. of the same cost £4 13s. 2d.



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