

ENTRANCE ARITHMETIC.

1. A boy's hoop is $3\frac{1}{2}$ ft. in circumference; how many turns will it make in going $\frac{7}{8}$ of a mile?

2. The front wheel of a carriage is $10\frac{1}{2}$ ft. in circumference, and the hind wheel $11\frac{2}{3}$ ft.; how many revolutions will each make in going $8\frac{3}{4}$ miles?

3. The front wheel of a carriage is $6\frac{2}{3}$ ft. in circumference, and makes 1,056 revolutions more than the hind wheel in going 20 miles. What is the circumference of the hind wheel?

4. The hind wheel of a waggon is 10 ft. in circumference, and makes 330 fewer revolutions than the front wheel in going $2\frac{1}{2}$ miles. Find the circumference of the front wheel.

5. The hind wheel of a carriage is $7\frac{6}{7}$ ft. in circumference, and the front wheel $6\frac{3}{5}$ ft.; how many feet must the carriage travel before the latter has made 20 revolutions more than the former?

6. A newsboy buys newspapers at the rate of 6 for 5 cents, and sells them at the rate of 8 for 9 cents. Find his gain per cent.

7. A tradesman marks his goods at an advance of 40 per cent. on cost, but gives a customer a reduction of 30 per cent.; what per cent. does the merchant gain or lose?

8. How much per cent. above cost must a man mark his goods in order to take off 20 per cent., and still make 30 per cent. profit?

9. A drover sold two cows at \$60 each; on one he gained 20 per cent., and on the other he lost 25 per cent.; did he gain or lose, and what per cent.?

10. If $\frac{1}{5}$ of the cost price equals $\frac{3}{4}$ of the selling price, find the gain per cent.?

Answers. (1) 11,320. (2) 4,400, and 3,960 respectively. (3) $7\frac{1}{7}$ ft. (4) 8 ft. (5) 825 ft. (6) 35. (7) Loses 2 per cent. (8) $62\frac{1}{2}$ per cent. (9) $6\frac{1}{4}$ per cent. loss. (10) $6\frac{2}{3}$ per cent.

1. In what time will any sum of money double itself at 5 per cent, per annum? At 6? At 7? At 8? At 10?

2. At what rate will any sum of money double itself in 20 yrs? In 30? In 25? In 12? In 15?

3. (a) In what time will the interest on \$300 be \$60 at 5 per cent?

(b) In what time will the interest on \$250 be \$70 at 4 per cent.?

(c) In what time will the interest on \$1,000 be \$180 at 7 per cent.?

(d) In what time will the interest on \$600 be \$540 at 3 per cent.?

(e) In what time will the interest on \$150 be \$72 at 6 per cent.?

(f) In what time will \$500 amount to \$620 at 4 per cent.?

(g) In what time will \$250 amount to \$310 at 6 per cent.?

(h) In what time will \$200 amount to \$245 at $4\frac{1}{2}$ per cent.?

(i) In what time will \$350 amount to \$434 at 4 per cent.?

(j) In what time will \$1,500 amount to \$1,900 at 6 per cent.?

4. (a) At what rate will the interest on \$1,000 for 3 yrs. be \$210?

(b) At what rate will the interest on \$600 for 8 yrs. be \$144?

(c) At what rate will the interest on \$550 for 4 yrs. be \$110?

(d) At what rate will the interest on \$250 for 8 yrs. be \$320?

(e) At what rate will the interest on \$120 for 10 yrs. be \$90?

(f) At what rate will \$500 amount to \$680 in 6 years?

(g) At what rate will \$750 amount to \$900 in 6 years?

(h) At what rate will \$1,200 amount to \$1,344 in 4 years?

(i) At what rate will \$300 amount to \$450 in 10 years?

(j) At what rate will \$450 amount to \$600 in 5 years?

5. (a) \$50 is interest on what sum for 4 years at 5 per cent?

(b) \$36 is interest on what sum for $4\frac{1}{2}$ years at 4 per cent?