

# IN THE HIGH SCHOOL ARITHMETIC

47. External vol. =  $12 \times 10 \times 8$ , or 960 cu. in. Internal vol. =  $10 \times 8 \times 6$ , or 480 cu. in.  $\therefore$  vol. of metal = 480 cu. in., which weighs 89 lb.  $\therefore$  wt. of 960 cu. in. = 178 lb.

48. Sup. the sum is \$4.  $\therefore$  S. P. per yd. = 10c.  $\therefore$  cost = 8c. To gain 50% he must sell at 12c., or  $33\frac{1}{3}$  yd. for \$4.

49. It is 5 hr. 20 min. later, or 12.35 a.m.

50. Dif. in dist. travelled by train and man in 8 sec. is 88 yd., or  $22\frac{1}{2}$  mi. in 1 hr.

51. Each sold at the same fraction of cost.  $\therefore$  the cube of that fraction is  $\frac{\$8.64}{\$5} = \frac{1728}{1000}$ .  $\therefore$  the fraction is  $\frac{12}{10}$  and the rate of profit is 20%.

52. \$1 amounts to  $\$(1.01)^4 = \$1.0406+$ .  $\therefore$  rate = 4.06%.

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53. Cost of wheat = \$7760. Com. for buying = 2% of \$7760 = \$155.20. Net S. P. of lumber = \$7915.20, which is 97% of gross S. P. of lumber.

54.  $18000 \text{ fr.} = \cancel{\text{£}} \frac{18000}{25.2} = \$4.86\bar{3} \times \frac{18000}{25.2}$ .

55. The areas are in the ratio of 4 to 9.  $\therefore$  the radii and also the circumferences are in the ratio of 2 to 3.  $\therefore$  cost of second fence is  $\$30 \times \frac{3}{2} = \$45$ .

56. Amt. unpaid at end of 1st yr. = \$2560 + \$128 - \$650 = \$2038. At end of 2nd = \$2038 + \$101.90 - \$650 = \$1489.90. At end of 3rd = \$1489.90 + \$74.495 - \$650 = \$914.395.

57. 80, page 220.

58. 1, page 186; 31, page 189.

59. They are evidently together for the first time at the end of one hour. When the fastest has gone 20 rounds the 4th has gone only  $\frac{1}{2}$  of 20, or  $18\frac{1}{2}$  rounds.  $\therefore$  if the