

SOLUTIONS OF THE PROBLEMS

88. $2000 \times 2000 \times 50 \div 360 \div 33000$.

89. $\frac{5}{7}$ of work is done in 20 days. $\therefore \frac{2 \cdot 5}{2 \cdot 8}$ could be done in 25 days. $\therefore \frac{5}{8}$ is done in 5 days by 3 men. $\therefore \frac{5}{7}$ is done in 20 days by 5 men.

90. Proposed gain = 8% of \$600 = \$48. Actual gain = $\frac{1}{12}$ of \$600 = \$50.

91. Page 131.

92. Suppose the two lots are put together then there will be 50 c. each coin, and the total value of the two lots is \$22.50. Also the dif. of their values is \$1. $\therefore$ the value of the given lot = $\frac{1}{2}$ of \$23.50 = \$11.75. If they were all 25c. the val. would be \$12.50, or a reduction of 75c. $\therefore$ no. of 20c. pieces is $75 \div 5 = 15$.

93. I want 364 oz. nickel, 336 lead, and 392 tin. The alloy used is $\frac{2}{3}$ nickel. $\therefore$ to get 364 oz. nickel I must use $\frac{3}{2}$ of 364, or 910 oz. of the alloy, which will contain $\frac{9}{8}$ of 910, or 234 oz. lead. $\therefore$ 102 oz. lead must be added.

94. 51, page 247.

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95. If the cask contains 4 gal. wine and 3 water, then after the operation it will contain 3 gal. wine and 4 water. $\therefore$ 1 gal. of wine must be drawn off, or $\frac{1}{4}$ of the mixture.

96. When the first goes 5 rounds, the second goes 7, and the third 9. $\therefore$ when the 1st goes $2\frac{1}{2}$ rounds the 2nd goes $3\frac{1}{2}$ and the third $4\frac{1}{2}$. $\therefore$ they are then all together for the first time.

97. $1 \div 2.302585 = .43429$.

98. The 3rd gains 100 yd. on 2nd in 6 min., and 200 on the 1st in 8 min. $\therefore$ 3rd gains $16\frac{2}{3}$ yd. per min. on the 2nd and 25 yd. per min. on 1st. $\therefore$ the 2nd gains $8\frac{1}{3}$ yd. per min. on the 1st. $\therefore$ he will gain 100 yd. in 12 min. from starting.