IN THE HIGH SCHOOL ARITHMETIC

70. 9842 roubles = £1316 2s. 11.7d. Afterwards 9842 roubles = £1294 6s. 10.3d. \therefore gain = £21 16s. 1.4d.

Page 260

71. The discount = \$16. The banker has to pay int. on \$984 for 73d. at $3\frac{1}{2}$ %, which = \$6.888. ... his gain is \$16 - \$6.888 = \$9.112.

72. If l.e sold both at 2% com. he would realize \$16. \therefore he made the extra \$10 by the increased com. on the second lot. Every \$100 at 4% increases the com. by \$2. \therefore the S.P. of the second lot was \$500.

/3. The amount in 3 years is \$16872.96. ... the int. = \$674.9184.

74. Area of end of wire $=\frac{22}{7} \times \cdot 05^2$ sq. in. \therefore length of wire in in. $= 1728 \div \frac{22}{7} \div (\cdot 05)^2$.

75. If the two lots are mixed there are 14 lb. of each worth \$10.15.

76. Duty = $\pounds72$. \therefore total cost = $\pounds792 = \$3854.40$. Net amount of sales = 95% of \$4200 = \$3990.

77. 68 d.../s' wages=sum and int. for 4 days. 72 days' wages=sum and int. for 6 days. \therefore int. for 2 days = 4 days' wages. \therefore int. for 4 days=8 days' wages, or the wages of 2 men for 4 days.

78. Side of field = 279 yd. Length of walk = 283×4 , or 1132 yd. \therefore area = 4528 sq. yd.

79. When A goes 34 rounds he has gained 1 round, or $\frac{1}{4}$ mi. on B. \therefore in 40 rounds he gains $\frac{\pi}{17}$ mi.

80. $59_{25}^{1}\% = \frac{3}{625}^{3}$. \therefore S.P. $=\frac{256}{625}^{6}$ of marked pr. This fraction is the fourth power of the fraction by which the first reduced price is obtained from the marked price. \therefore the reduction fraction is $\frac{4}{5}$, or each discount = 20%.

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81. Draw the figure. The area=2 sectors $(\angle 150^{\circ})$ and rad. 100 ft.)+2 sectors $(\angle 30^{\circ})$ and rad. 60 ft.)+2 sectors $(\angle 90^{\circ})$ and rad. 20 ft.)+equilateral \triangle (side 40 ft.).

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