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82. Circumference = 572 yd. ∴ diameter = 182 yd.

83. Find the equated time and add int. to Oct. 12th.

84. Sup. cost = 20c. per gal. He sells at 25c. per gal. Total S.P. = $2250. ∴ no. of gal. sold = 9000. No. bought = 7500. ∴ each gal. sold was only $\frac{5}{6}$ of a gal.

85. Larger segment = a sector with ∠300° + equilateral △ side r. Smaller segment − sector ∠60° − same equilateral △.

86. Whole gain % = $12\frac{1}{2} + 7 = 19\frac{1}{2}$. $\frac{100}{103}$ of $\frac{95}{100}$ of sales $= \frac{119{\cdot}5}{100}$ of cost. ∴ sales = 1·2956 of cost. ∴ advance = 29·56%.

87. The bullet must travel the 545 yd. in $2\frac{1}{2}$ sec., and ∴ sound travels the 545 yd. in $1\frac{1}{2}$ sec., or 1090 feet per sec.

88. Slant height $= 6\sqrt{2}$. Area of cone $= \frac{22}{7} \times 12 \times 3\sqrt{2}$ = 159·98 sq. ft. Area of cylinder $= \frac{22}{7} \times 12 \times 3 = 113{\cdot}14$ sq. ft. Total area = 273·12 sq. ft. = 30·34 sq. yd. Cost of 1 sq. yd. = 20c. ∴ total cost = $6·07 + 45c. = $6·52.

89. £750 = $3645. Com. = $182·25. ∴ net S.P. = $3645 − $182·25 − $262·75 = $3200, which is $\frac{4}{5}$ of cost. ∴ cost = $2400.

90. Dif. in long. = 214°. ∴ dif. in time = 14 h. 16 m. ∴ it is 14 h. 16 m. later, or 7.26 a.m. of the next day.

91. The base consists of 2 triangles whose sides are 104, 85, 45. ∴ using formula the area of the base is 3744 sq. in. ∴ vol. in cu. ft. = 3744 × 125 ÷ 1728 = $270\frac{5}{6}$.

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92. 5 ac. keep 20 oxen 10 weeks. ∴ 8 ac. keep 32 oxen 10 weeks, and 8 ac. keep 29 oxen 16 weeks, or 320 oxen are kept 1 wk. by the grass on 8 ac. + 10 wks.' growth