SOLUTIONS OF THE PROBLEMS

HIGH SCHOOL ARITHMETIC

Measures and Multiples

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10. The required number is the G. C. M. of 13949 and 14558.

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13. It must be a mult. of 2, 3, 4 and 5 or of 60, and must therefore be 360, as this is the only multiple of 60 greater than 300 and less than 400.

14. It is the G. C. M. of 34037 and 307007.

15. The other $= 244188 \times 84 \div 1428$ (see pp. 14-15).

16. Since $96 = 2^5.3$ the other may be 2^5 or $2^5.3$.

17. The other must have the factor 17, because the G. C. M. $= 17$, also the factor 7 because the L. C. M. has the factor 7 and neither of the other numbers has it. It may have the factor 5, but cannot have the factor 2. $\therefore$ it must be 7×17 or $5 \times 7 \times 17$.

18. The side of each square is the G. C. M. of 465 and 682, or 31. $\therefore$ there are 15 on one side and 22 on the other, or 330 in all.

19. Length of rail is G. C. M. of 3143 and 2471 = ˙ ft. Distance around the field $= 11228$ ft. $\therefore$ number of rails $= 11228 \div 7 \times 8$.

20. Greatest weight $=$ G. C. M. of 7000 and $5760 = 40$ gr. Least $=$ L. C. M. of 7000 and $5760 = 1008000$ gr. $= 144$ lb. avoir.