yd. $= 3970$ sq. yd. $\therefore$ radius of this circle $= (\sqrt{3970 \div \frac{22}{7}})$ yd. $= 35{\cdot}541$ yd. $\therefore$ width of road $= (35{\cdot}541 - 35)$ yd.

32. The length contains 3 ft. as many times as the width contains 2 ft. Area of rectangle 3 ft. by 2 ft. $=$ 6 sq. ft. $\therefore$ 240 sq. ft. contains $(240 \div 6)$ of these rectangles $= 40$. $\therefore$ the length $= (\sqrt{40} \times 3)$ ft. $= 18{\cdot}973$ ft.

33. Circumference of circular field $= (\frac{22}{7} \times 15)$ rods $=$ $47\frac{1}{7}$ rods, and perimeter of square field $= (4 \times 14)$ rods $=$ 56 rods. $\therefore$ square field by $8\frac{6}{7}$ rods.

34. 7, page 112.

Page 114

35. External dimensions are 36 in., 24 in., 18 in. Internal dimensions are 34 in., 22 in., 17 in. No. of cu. in. of material $= 36 \times 24 \times 18 - 34 \times 22 \times 17 = 2836$ cu. in.

36. Side of sq. $= \sqrt{80}$ in. $\therefore$ length $= (\sqrt{80} \div 8)$ in. $=$ $1{\cdot}118$ in.

37. Area field $= (40 \times 5\frac{1}{2} \times 3 \times 30 \times 3)$ sq. ft. $\therefore$ side of sq. $= \sqrt{40 \times 5\frac{1}{2} \times 3 \times 30 \times 3}$ ft. $= 243{\cdot}721$ ft.

38. 6, page 112.

39. See page 87.

40. Area $= 2\ \{(9 \times 10) + (10 \times 7\frac{1}{2}) + (9 \times 7\frac{1}{2})\}$ sq. ft. $=$ &c.

41. Rad. $= \frac{7}{44} \times 55$ in. $= \frac{35}{4}$ in. $\therefore$ area of circle $=$ $\frac{22}{7} \cdot (\frac{35}{4})^2$ sq. in. $\therefore$ side of sq. $= \sqrt{\frac{22}{7} \cdot (\frac{35}{4})^2}$ in. $= \frac{35}{4}\sqrt{\frac{22}{7}}$ in. $=$ $\frac{35}{4}\sqrt{3{\cdot}142857}$ in. $= 15{\cdot}512$ in.

42. 15, page 112, and 32, page 113.

43. Side of square $= 25$ yd., sides of rect. $= 10$ and 40 yd.

44. Side of field $= \sqrt{10 \times 4840}$ yd. $= 220$ yd. Length of wire $= (5 \times 4 \times 220)$ yd. $= 4400$ yd. Cost of wire $= \$(4400 \times {\cdot}03) = \$132$. No. of posts to a side $= 84$. $\therefore$ no. of posts required $= 4 \times 84 - 4 = 332$. Cost of posts $= \$(332 \times {\cdot}08) =$ $\$26{\cdot}56$. $\therefore$ total cost $= \$(132 + 26{\cdot}56) = \$158{\cdot}56$.