

$$\begin{array}{r}
 1. \quad 5 \overline{) 250000} \\
 \underline{5 \overline{) 50000}} \\
 \underline{5 \overline{) 10000}} \\
 \underline{5 \overline{) 2000}} \\
 \underline{5 \overline{) 400}} \\
 \underline{5 \overline{) 80}} \\
 \underline{2 \overline{) 16}} \\
 \underline{2 \overline{) 8}} \\
 \underline{2 \overline{) 4}} \\
 \underline{2 \overline{) 2}} \\
 1
 \end{array}$$

$$250000 = 5^6 \times 2^4$$

$$= (5^3 \times 2^2)(5^3 \times 2^2)$$

$$\sqrt{250000} = 5^3 \times 2^2 = 500.$$

$$3. \quad l = \sqrt[3]{V}$$

$$\begin{array}{r}
 5 \overline{) 15625} \\
 \underline{5 \overline{) 3125}} \\
 \underline{5 \overline{) 625}} \\
 \underline{5 \overline{) 125}} \\
 \underline{5 \overline{) 25}} \\
 \underline{5 \overline{) 5}} \\
 1
 \end{array}$$

$$15625 = (5^2)(5^2)(5^2)$$

$$\sqrt[3]{15625} = 5^2 = 25.$$

$$SA = 6l^2$$

$$= 6(25)(25) = 3750 \text{ cm}^2$$

$$\begin{array}{r}
 2. \quad 5 \overline{) 42875} \\
 \underline{5 \overline{) 8575}} \\
 \underline{5 \overline{) 1715}} \\
 \underline{7 \overline{) 343}} \\
 \underline{7 \overline{) 49}} \\
 7
 \end{array}$$

$$42875 = 5^3 \times 7^3$$

$$= (5 \times 7)(5 \times 7)(5 \times 7).$$

$$\sqrt[3]{42875} = 5 \times 7 = 35.$$

$$6. \quad SA = 6l^2$$

$$3750 = 6l^2$$

$$625 = l^2$$

$$V = l^3$$

$$= (25)^3$$

$$= 15625 \text{ ft}^3.$$

$$\begin{array}{r}
 5 \overline{) 625} \\
 \underline{5 \overline{) 125}} \\
 \underline{5 \overline{) 25}} \\
 \underline{5 \overline{) 5}} \\
 1
 \end{array}$$

$$625 = (5 \times 5)(5 \times 5)$$

$$\sqrt{625} = 5 \times 5 = 25.$$

9. $l = \sqrt[3]{V}$

$$\begin{array}{r} 3 \overline{) 729} \\ \underline{3 243} \\ 3 81 \\ \underline{3 27} \\ 3 9 \\ \underline{3 3} \\ 1 \end{array}$$

$$729 = (3^2)(3^2)(3^2)$$

$$\sqrt[3]{729} = 3^2 = 9.$$

$$\begin{aligned} SA &= 6l^2 \\ &= 6(9)^2 \\ &= 486 \text{ m}^2. \end{aligned}$$

$$486 \div 32 = 15.1875.$$

$\therefore 16 \text{ Cans}$

10.

$$\begin{array}{r} 2 \overline{) 551368} \\ \underline{2 275684} \\ 2 137842 \\ \underline{4 68921} \\ 4 1681 \\ \underline{4 41} \\ 1 \end{array}$$

$$551368 = (2 \times 41)(2 \times 41)(2 \times 41)$$

$$\sqrt[3]{551368} = 2 \times 41 = 82.$$

12. $l = \sqrt[3]{V}$

$$\begin{array}{r} 3 \overline{) 9261} \\ \underline{3 3087} \\ 3 1029 \\ \underline{3 343} \\ 7 49 \\ \underline{7 7} \\ 1 \end{array}$$

$$l = \sqrt[3]{9261} = (3 \times 7) = 21$$

$$\begin{aligned} A &= 21 \times 21 \\ &= 441 \text{ in}^2. \end{aligned}$$

$$\begin{array}{r} 13.5 \overline{) 308025} \\ \underline{5 61605} \\ 3 12321 \\ \underline{3 4107} \\ 37 1369 \\ \underline{37 37} \\ 1 \end{array}$$

$$308025 = 5^2 \times 3^2 \times 37^2$$

$$308025 = (5 \times 3 \times 37)(5 \times 3 \times 37)$$

$$\sqrt{308025} = 5 \times 3 \times 37 = 555.$$

14. $SA = 6l^2$ (calculator required). 15. (calculator required).

$$6900 = 6l^2$$

$$l^2 = 1150.$$

$$l = \sqrt{1150}.$$

$$= 33.91$$

$$\begin{aligned} V &= (33.91)^3 \\ &= 38998.4 \text{ cm}^3 \end{aligned}$$

$$A = l^2$$

$$40 = l^2$$

$$l = 6.3$$

$$P = 4 \times l$$

$$= 4 \times 6.3$$

$$= 25.3 \text{ cm}$$

$$\begin{array}{r}
 16. \quad 17 \overline{) 4913} \\
 \underline{17} 289 \\
 \underline{17} 17 \\
 1
 \end{array}$$

$$4913 = 17^3 = (17)(17)(17)$$

$$\sqrt[3]{4913} = 17.$$

It's a perfect cube.
but not a perfect square.

$$\begin{array}{r}
 17. \quad 2 \overline{) 2744} \\
 \underline{2} 1372 \\
 \underline{2} 686 \\
 7 343 \\
 7 49 \\
 7 7 \\
 1
 \end{array}$$

$$2744 = (2 \times 7)(2 \times 7)(2 \times 7)$$

$$\sqrt[3]{2744} = 2 \times 7 = 14 = l.$$

$$1176 \div 79$$

$$= 14.89$$

$$SA = 6l^2 = 6 \times 14^2 = 1176m^2.$$

∴ 15 tubs