

Exercise XLIII.

1. A's, 200; B's, \$500.
2. (a) 92 sq. ft. 102 sq. inches.
(b) 7 cu. ft. 1254 cu. inches.
3. \$20 of an increase.
4. 3 feet.
5. 75%.
6. 6 days.
7. \$147.84.
8. \$99.
9. 99.
10. 78125.
11. 7.
12. 1093 sq. yards. 4 sq. ft. 72 sq. inches.
13. (a) $4121 = 412(10) + 1$.
 $= \{ 41(10) + 2 \} (10) + 1$.
 $= 41(10)^2 + 2(10) + 1$.
 $= 4 \{ (10) + 1 \} (10)^2 + 2(10) + 1$.
 $= 4(10)^3 + 1(10)^2 + 2(10) + 1$.
 $= 4121$.
 (b) $4121 = 515(8) + 1$.
 $= \{ 64(8) + 3 \} (8) + 1$.
 $= 64(8)^2 + 3(8) + 1$.
 $= \{ 8(8) + 0 \} (8)^2 + 3(8) + 1$.
 $= 8(8)^3 + 0(8)^2 + 3(8) + 1$.
 $= 8031$.

Exercise XLIV.

1. 28 miles.
2. One part 142, the other 8.
3. \$1000.
4. 355957.03125.
5. $\left\{ \begin{array}{l} \text{B, } \$3.06\frac{1}{2} \\ \text{P, } \$9.97\frac{1}{2} \\ \text{R, } \$1.96\frac{1}{4} \end{array} \right\} = \15.00 total.
6. 24%.
7. $\left\{ \begin{array}{l} 4687\frac{1}{2} \text{ lbs. water,} \\ 2049\frac{1}{2} \text{ lbs. slate,} \end{array} \right\} = 6736\frac{3}{4} \text{ lbs. in all; or 3 tons 736 lbs.}$
10 ozs.
8. A, \$1.60; B, \$3.60.
9. (a) 3; and (b) 484.84.
10. 24 ft.
11. \$8500.
12. \$53.29.
13. 80 planks.

Exercise XLV.

1. 6.
2. $25\frac{1}{2}$ lbs. to the cub. ft.
3. \$1192.32.
4. 13.
5. \$8070.00.
6. The latter; \$5 gain.
7. \$1.00.
8. \$10350.00.
9. 40 feet.
10. \$77.50.
11. \$22.50.
12. 7.
13. 200.