## 14.4.1.

- (a) By distributivity of addition and multiplication,  $(18 \times 93) + (18 \times 7) = 18 \times (93 + 7) = 18 \times 100 = 1800$ .
- (b) By distributivity,  $(12 \times 5) + (8 \times 5) = (12 + 8) \times 5 = 20 \times 5 = 100$ .
- (c) By associativity of addition, (231 + 198) + 2 = 231 + (198 + 2) = 231 + 200 = 431.
- (d) By associativity of multiplication,  $(17 \times 25) \times 4 = 17 \times (25 \times 4) = 17 \times 100 = 1700$ .
- (e)  $\frac{117}{298} \times \frac{39}{39} = \frac{117}{298} \times 1 = \frac{117}{298}$  because 1 is an idenity with respect to multiplication.
- (f)  $\frac{0}{24} + \frac{13}{35} = 0 + \frac{13}{35} = \frac{13}{35}$  because 0 is an idenity with respect to addition.
- (g)  $4(10+7) = 4 \times 17 = 68$  and  $4(10+7) = 4 \times 10 + 4 \times 7 = 40 + 28 = 68$  using distributivity of addition and multiplication.