**Calculations Using Properties of Operations**

Justify why each step in the following calculations is valid using basic real number properties of operations or properties derived from them.

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| 1. a. 6 × 7 = (5 + 1) × 7 b. = 5 × 7 + 1 × 7 c. = 5 × 7 + 7 d. = 35 + 7 e. = 42 | a.b.c.d.e. |
| 2. a. 56 + 39 = (5 × 10 + 6) + (3 × 10 + 9) b. = (5 × 10 + 3 × 10) + (6 + 9) c. = (5 + 3) × 10 + (6 + 9) d. = 8 × 10 + (6 + 9) e. = 80 + (6 + 9) f. = (80 + 6) + 9 g. = 86 + 9 h. = 86 + (4 + 5) i. = (86 + 4) + 5 j. = 90 + 5 k. = 95 | a.b.c.d.e.f.g.h.i.j.k. |
| 3. a. 35 + 48 = (3 × 10 + 5) + (4 × 10 + 8) b. = (3 × 10 + 4 × 10) + (5 + 8) c. = (3 + 4) × 10 + (5 + 8) d. = (5 + 8) + (3 + 4) × 10 e. = 13 + (3 + 4) × 10  f. = (1 × 10 + 3) + (3 + 4) × 10  g. = (3 + 1 × 10) + (3 + 4) × 10 h. = 3 + (1 × 10 + (3 + 4) × 10 i. = 3 + (1 + (3 + 4)) × 10 j. = 3 + (8 × 10) k. = (8 × 10) + 3 l. = 80 + 3 m. = 83 | a.b.c.d.e.f.g.h.i.j.k.l.m. |