1. Which of the following are true?

   a) $16+10=10+16$
   b) $10-4=4-10$
   c) $9\times16=16\times9$
   d) $4\div9=9\div4$

   (i) {b,d,a} (ii) {a,c} (iii) {b,a} (iv) {b,c,a} (v) {d,c}

2. Which of the following are true?

   a) $19+(15+3)=(19+15)+3$
   b) $3\div(13\div19)=(3\div13)\div19$
   c) $15-(3-13)=(15-3)-13$
   d) $13\times(19\times15)=(13\times19)\times15$

   (i) {a,d} (ii) {c,d} (iii) {b,a} (iv) {b,c,a} (v) {b,d,a}

3. Which of the following are true?

   a) $9-(19\times17)=(9-19)\times(9-17)$
   b) $17\times(16+9)=(17\times16)+(17\times9)$
   c) $16\times(9-19)=(16\times9)-(16\times19)$
   d) $19\div(17+16)=(19\div17)+(19\div16)$

   (i) {a,b} (ii) {d,c} (iii) {b,c} (iv) {a,c,b} (v) {a,d,b}

4. Which of the following are true?

   a) $14-18=18-14$
   b) $6+14=14+6$
   c) $18\div3=3\div18$
   d) $3\times6=6\times3$

   (i) {a,c,b} (ii) {a,d,b} (iii) {b,d} (iv) {a,b} (v) {c,d}

5. Which of the following are true?

   a) $7\times(17\times11)=(7\times17)\times11$
   b) $17+(11+4)=(17+11)+4$
   c) $4\div(7\div17)=(4\div7)\div17$
   d) $11-(4-7)=(11-4)-7$

   (i) {c,a} (ii) {a,b} (iii) {d,b} (iv) {c,b,a} (v) {c,d,a}

6. Which of the following are true?

   a) $12 \div (7+5) = (12 \div 7) + (12 \div 5)$
   b) $7 \times (5+9) = (7 \times 5) + (7 \times 9)$
   c) $9 - (12 \times 7) = (9 - 12) \times (9 - 7)$
   d) $5 \times (9 - 12) = (5 \times 9) - (5 \times 12)$

   (i) {a,c,b} (ii) {a,d,b} (iii) {c,d} (iv) {b,d} (v) {a,b}

7. Which of the following are true?

   a) whole numbers are closed under division
   b) whole numbers are closed under addition
   c) whole numbers are closed under multiplication
   d) whole numbers are closed under subtraction

   (i) {d,c} (ii) {b,c} (iii) {a,b} (iv) {a,d,b} (v) {a,c,b}

8. Which of the following are true?

   a) integers are closed under addition
   b) integers are closed under subtraction
   c) integers are closed under division
   d) integers are closed under multiplication

   (i) {c,b} (ii) {c,d} (iii) {a,b,d} (iv) {c,a,b} (v) {c,a}

Assignment Key

1) (ii)	2) (i)	3) (iii)	4) (iii)	5) (ii)	6) (iv)
7) (ii)	8) (iii)				