

1) a) $-2[4+7(-3)]-5:(5) = -2[4-21]-1 = -2(-17)-1 = 34-1 = \boxed{33}$

b) $2-[-3(-7)+8] = 2-[21+8] = 2-29 = \boxed{-27}$

c) $2-3[5+7(-2)]:(3) = 2-3[5-14]:3 = 2-3(-9):3 = 2+9 = \boxed{11}$

d) $(7)+3-(4):2 = 7+3-2 = \boxed{8}$

e) $100:(10) + (2) \times 3 = 10 + 6 = \boxed{16}$

2) $60 = 2^2 \cdot 3 \cdot 5$

$45 = 3^2 \cdot 5$

$36 = 2^2 \cdot 3^2$

$72 = 2^3 \cdot 3^2$

3) a) $12 = 2^2 \cdot 3$
 $15 = 3 \cdot 5$
 $30 = 2 \cdot 3 \cdot 5$ } MCD = $\boxed{3}$
 mcm = $2^2 \cdot 3 \cdot 5 = \boxed{60}$

b) $4 = 2^2$
 $8 = 2^3$
 $12 = 2^2 \cdot 3$ } MCD = $2^2 = \boxed{4}$
 mcm = $2^3 \cdot 3 = \boxed{24}$

4) $12 \overline{) 1208} = \frac{1208-12}{99} = \frac{1196}{99}$
 $1'25 = \frac{125}{100} = \frac{25}{20} = \frac{5}{4}$

$1'46 = \frac{146-14}{90} = \frac{132}{90} = \frac{44}{30} = \frac{22}{15}$

5) a) $\frac{12}{36} + \frac{2}{6} + \frac{5}{15} = \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \boxed{1}$

b) $\frac{3}{2^2} - \frac{5}{2 \cdot 3} + \frac{3}{2^3} = \frac{3 \cdot 6 - 5 \cdot 4 + 3 \cdot 3}{2^3 \cdot 3} = \frac{18 - 20 + 9}{2^3 \cdot 3} = \frac{7}{2^3 \cdot 3} = \frac{7}{24}$

c) $1 + \frac{2}{3} + \frac{1}{3} = 1 + 1 = \boxed{2}$