QUESTION 1 Simplify the following.

a $(8 + 12) - 5$ $= 20 - 5$
$= 15$

b $64 - (30 + 5)$ $= 64 - 35$
$= 29$

c $(8 + 12) + (6 + 4)$ $= 20 + 10$
$= 30$

d $(5 + 7) \times 3$ $= 12 \times 3$
$= 36$

e $18 \times (42 \div 7)$ $= 18 \times 6$
$= 108$

f $(62 + 10) \div (36 \div 4)$ $= 72 \div 9$
$= 8$

g $12 + 13 + 5 - 7$ $= 25 - 2$
$= 23$

h $64 - 12 - 6 - 4$ $=$
$= 42$

i $8 \times 2 \times 2 \times 3$
$= 96$

QUESTION 2 Write the basic numeral for each of the following.

a $9 + 2 \times 5 + 7$ $= 9 + 10 + 7$
$= 26$

b $32 + 18 \times 5$ $= 32 + 90$
$= 122$

c $85 - 18 \div 9 + 20$ $= 85 - 2 + 20$
$= 103$

d $12 \times (8 - 3) \div (17 - 7)$ $= 12 \times 5$ ÷10
$= 6$

e $(34 + 14) \div 6$ $= 48 \div 6$
$= 8$

f $84 - 5(15 - 3) + 25$ $= 84 - 5 \times 12$
$= 24$

g $64 + 2 \times (28 - 8 \times 2)$
$= 64 + 2 \times (28 - 16)$
$= 64 + 2 \times 12$
$= 64 + 24$
$= 88$

h $96 \div (4 + 8) \times 5$
$= 96 \div (12) \times 5$
$= 8 \times 5$
$= 40$

i $8 \times (28 + 8) \div 4$
$= 8 \times 36 \div 4$
$= 288 \div 4$
$= 72$

QUESTION 3 Use the rules for the order of operations to simplify the following.

a $[(10 + 5) \div 3] \times 7$
$= (15 \div 3) \times 7$
$= 5 \times 7 = 35$

b $30 \times [(36 \div 9) \times 2] - 6$
$= 30 \times (4 \times 2) - 6$
$= 30 \times 8 - 6 = 234$

c $[(4 + 8) \times (19 - 14) \div 4]$
$= (12 \times 5 \div 4)$
$= 15$

d $[(24 + 11) \div 7] \times 9$
$= 35 \div 7 \times 9$
$= 5 \times 9 = 45$

e $[8 + (8 \times 8)] \div 8$
$= (8 + 64) \div 8$
$= 72 \div 8 = 9$

f $6 \times [(2 + 14) \times (13 - 6)]$
$= 6 \times [16 \times 7]$
$= 6 \times 112 = 672$

QUESTION 4 Insert the grouping symbols to make the following statements true.

a $(16+9)\times 0=0$

=

b $14+(8-6)\times 3=20$

=

c $(15-7)\times 9=72$

=

d $(144\div 12-7)\times 3=15$

=

e $(24+12)\div(4+5)=4$

=

f $72\div(12-3)+2=10$

=

QUESTION 2 Find answers to the following.

a $16\times(9-4)\div(15-5)$

$=16\times 5\div 10=8$

b $68-3(12-3)+32$

$=68-3\times 9+32=73$

c $88+2\times(36-6\times 4)=88+2\times(36-24)$

$=88+2\times 12=64$

d $99\div(12-3)\times 9$

$=99\div 9\times 9=99$

e $68-3(18-5)+32=68-3\times 13+32$

$=68-39+32=61$

f $74+(28\div 7\times 3)-8=74+(4\times 3)-8$

$=74+12-8=78$

g $10\times(32+28)\div 4$

$=10\times 60\div 4$

$=60\div 4$

$=15$

h $300-[16+(3\times 8)\div 6]$

$=300-[16+24\div 6]$

$=300-[16+4]$

$=300-20$

$=280$

i $140\div\{12+[(4\times 5)-18]\}$

$=140\div\{12+[20-18]\}$

$=140\div\{12+2\}$

$=140\div 14$

$=10$

QUESTION 4 Insert the grouping symbols to make the following statements true.

a $(10+12)\div 11=2$

b $(23-3)\times 5=100$

c $(28+8)\times(8-7)\times 4\times 2=288$

d $(9+9\times 9)\div 9=10$

e $(12+6-8)\times 2=20$

f $3+8\times 7-4\times 3=72$

g $(15\div 3\times 8)-(6+9)=25$

h $(200-15)+(2\times 3\div 6)=184$

i $(6+8)\times 4-(36\div 9)=52$