

QUESTION 1 Simplify the following.

$$\begin{aligned} \text{a } (8 + 12) - 5 &= 20 - 5 \\ &= 15 \end{aligned}$$

$$\begin{aligned} \text{b } 64 - (30 + 5) &= 64 - 35 \\ &= 29 \end{aligned}$$

$$\begin{aligned} \text{c } (8 + 12) + (6 + 4) &= 20 + 10 \\ &= 30 \end{aligned}$$

$$\begin{aligned} \text{d } (5 + 7) \times 3 &= 12 \times 3 \\ &= 36 \end{aligned}$$

$$\begin{aligned} \text{e } 18 \times (42 \div 7) &= 18 \times 6 \\ &= 108 \end{aligned}$$

$$\begin{aligned} \text{f } (62 + 10) \div (36 \div 4) &= 72 \div 9 \\ &= 8 \end{aligned}$$

$$\begin{aligned} \text{g } 12 + 13 + 5 - 7 &= 25 - 2 \\ &= 23 \end{aligned}$$

$$\begin{aligned} \text{h } 64 - 12 - 6 - 4 &= \\ &= 42 \end{aligned}$$

$$\begin{aligned} \text{i } 8 \times 2 \times 2 \times 3 &= \\ &= 96 \end{aligned}$$

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

$$\begin{aligned} \text{a } 9 + 2 \times 5 + 7 &= 9 + 10 + 7 \\ &= 26 \end{aligned}$$

$$\begin{aligned} \text{b } 32 + 18 \times 5 &= 32 + 90 \\ &= 122 \end{aligned}$$

$$\begin{aligned} \text{c } 85 - 18 \div 9 + 20 &= 85 - 2 + 20 \\ &= 103 \end{aligned}$$

$$\begin{aligned} \text{d } 12 \times (8 - 3) \div (17 - 7) &= 12 \times 5 \div 10 \\ &= 6 \end{aligned}$$

$$\begin{aligned} \text{e } (34 + 14) \div 6 &= 48 \div 6 \\ &= 8 \end{aligned}$$

$$\begin{aligned} \text{f } 84 - 5(15 - 3) + 25 &= 84 - 5 \times 12 \\ &= 24 \end{aligned}$$

$$\begin{aligned} \text{g } 64 + 2 \times (28 - 8 \times 2) &= 64 + 2 \times (28 - 16) \\ &= 64 + 2 \times 12 \\ &= 64 + 24 \\ &= 88 \end{aligned}$$

$$\begin{aligned} \text{h } 96 \div (4 + 8) \times 5 &= 96 \div (12) \times 5 \\ &= 8 \times 5 \\ &= 40 \end{aligned}$$

$$\begin{aligned} \text{i } 8 \times (28 + 8) \div 4 &= 8 \times 36 \div 4 \\ &= 288 \div 4 \\ &= 72 \end{aligned}$$

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

$$\begin{aligned} \text{a } [(10 + 5) \div 3] \times 7 &= (15 \div 3) \times 7 \\ &= 5 \times 7 = 35 \end{aligned}$$

$$\begin{aligned} \text{b } 30 \times [(36 \div 9) \times 2] - 6 &= 30 \times (4 \times 2) - 6 \\ &= 30 \times 8 - 6 = 234 \end{aligned}$$

$$\begin{aligned} \text{c } [(4 + 8) \times (19 - 14) \div 4] &= (12 \times 5 \div 4) \\ &= 15 \end{aligned}$$

$$\begin{aligned} \text{d } [(24 + 11) \div 7] \times 9 &= 35 \div 7 \times 9 \\ &= 5 \times 9 = 45 \end{aligned}$$

$$\begin{aligned} \text{e } [8 + (8 \times 8)] \div 8 &= (8 + 64) \div 8 \\ &= 72 \div 8 = 9 \end{aligned}$$

$$\begin{aligned} \text{f } 6 \times [(2 + 14) \times (13 - 6)] &= 6 \times [16 \times 7] \\ &= 6 \times 112 = 672 \end{aligned}$$

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

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

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

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

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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 $10 \times (32 \div 28) \div 4$
 $= 10 \times 60 \div 4$
 $= 60 \div 4$
 $= 15$

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