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INTENSIVE MATHEMATICS (PBM1035)

Session December 2017

SELF-EXERCISE 6

Instructions

- Answer ALL questions. Write your answers in the spaces provided.
- Show your working. You may use a non-programmable scientific calculator.

1. Evaluate each using the values given.

(a) $p + 1 + q - m$; $m = 1, p = 3, q = 4$

$$\begin{aligned} &1) (a) \quad p + 1 + q - m \\ &= 3 + 1 + 4 - 1 \\ &= 7 \# \end{aligned}$$

(b) $\frac{6+z-y}{3}$; $y = 1, z = 4$

$$\begin{aligned} &(b) \quad \frac{6+z-y}{3} \\ &= \frac{6+4-1}{3} \\ &= \frac{9}{3} = 3 \# \end{aligned}$$

(c) $3 + z - 1 + y - 1$; $y = 5, z = 4$

$$\begin{aligned} &(c) \quad 3 + z - 1 + y - 1 \\ &= 3 + 4 - 1 + 5 - 1 \\ &= 10 \# \end{aligned}$$

(d) $k \times 3^2 - (j + k) - 5$; $j = 4, k = 5$

$$\begin{aligned} &(d) \quad k \times 3^2 - (j + k) - 5 \\ &= 5 \times 3^2 - (4 + 5) - 5 \\ &= 5 \times 9 - 9 - 5 \\ &= 45 - 9 - 5 \\ &= 31 \# \end{aligned}$$

2. Combine like terms.

(a) $r - 9 + 10$

$$\begin{aligned} &(a) \quad r - 9 + 10 \\ &= r - 1 \# \end{aligned}$$

(b) $x - 10 - 6x + 1$

$$\begin{aligned} &(b) \quad x - 10 - 6x + 1 \\ &= -5x - 9 \# \end{aligned}$$

(c) $m - 2m$

$$\begin{aligned} &(c) \quad m - 2m \\ &= -m \# \end{aligned}$$

(d) $-8p + 5p$

$$\begin{aligned} &(d) \quad -8p + 5p \\ &= -3p \# \end{aligned}$$

(e) $1 - r - 9$

$$\begin{aligned} &(e) \quad 1 - r - 9 \\ &= -8 - r \# \end{aligned}$$

(f) $-4b + 9b$

$$\begin{aligned} &(f) \quad -4b + 9b \\ &= 5b \# \end{aligned}$$

(g) $9n - 1 + n + 4$

$$\begin{aligned} &(g) \quad 9n - 1 + n + 4 \\ &= 10n + 3 \# \end{aligned}$$

3. Distribute. (Darab Masuk)

(a) $-8(x - 4)$

$$\begin{aligned} &3) (a) \quad -8(x - 4) \\ &= -8x + 32 \# \end{aligned}$$

(b) $8n(n + 9)$

$$\begin{aligned} &(b) \quad 8n(n + 9) \\ &= 8n^2 + 72n \# \end{aligned}$$

(c) $7k(-k + 6)$

$$\begin{aligned} &(c) \quad 7k(-k + 6) \\ &= -7k^2 + 42k \# \end{aligned}$$

(d) $-8n(5 + 10n)$

$$\begin{aligned} &(d) \quad -8n(5 + 10n) \\ &= -40n - 80n^2 \# \end{aligned}$$

(e) $-9b(b - 10)$

$$\begin{aligned} &(e) \quad -9b(b - 10) \\ &= -9b^2 + 90b \# \end{aligned}$$

(f) $4(8n - 2)$

$$\begin{aligned} &(f) \quad 4(8n - 2) \\ &= 32n - 8 \# \end{aligned}$$

(g) $-(-5 + 9a)$

$$\begin{aligned} &(g) \quad -(-5 + 9a) \\ &= 5 - 9a \# \end{aligned}$$

4. Simplify.

(a) $4v - 7(1 - 8v)$

$$\begin{aligned} &4) (a) \quad 4v - 7(1 - 8v) \\ &= 4v - 7 + 56v = 60v - 7 \# \end{aligned}$$

(b) $-8x + 9(-9x + 9)$

$$\begin{aligned} &(b) \quad -8x + 9(-9x + 9) \\ &= -8x - 81x + 81 = -89x + 81 \# \end{aligned}$$

(c) $-9 - 10(1 + 10a)$

$$\begin{aligned} &(c) \quad -9 - 10(1 + 10a) \\ &= -9 - 10 - 100a = -19 - 100a \# \end{aligned}$$

(d) $-2(4 + a) + 6a(9a + 10)$

$$\begin{aligned} &(d) \quad -2(4 + a) + 6a(9a + 10) \\ &= -8 - 2a + 54a + 60a \\ &= -8 + 112a \# \end{aligned}$$

(e) $-7(4x + 3) - 10(10x + 10)$

$$\begin{aligned} &(e) \quad -7(4x + 3) - 10(10x + 10) \\ &= -28x - 21 - 100x - 100 \\ &= -128x - 121 \# \end{aligned}$$

(f) $(5p - 6) + (1 - p)$

$$\begin{aligned} &(g) \quad 2n(-10n + 5) - 7(6 - 10n) \\ &= -20n + 10n - 42 + 70n \\ &= 60n - 42 \# \end{aligned}$$