

Chapter 6 (6.1A-6.2A) Mock Quiz

1. $\underbrace{6x}_1 - \underbrace{y^2}_2 - \underbrace{11}_3$
- a) Is the mathematical phrase above an equation or expression (1 mark)? expression
- b) List all variables (1 mark). x, y
- c) List all coefficients (1 mark). 6, -1
- d) List all constants (1 mark). -11
- e) How many terms (1 mark)? 3

↳ since there isn't an = sign!

2. Evaluate for $x=2$ and $y=-1$ (2 marks each)

a) $3y^2 + x - x^2$
 $= 3(-1)^2 + (2) - (2)^2$
 $= 3(1) + 2 - 4$
 $= 3 + 2 - 4$
 $= 5 - 4 = 1$

1

b) $5xy + 7y^2$
 $= 5(2)(-1) + 7(-1)^2$
 $= -10 + 7(1)$
 $= -10 + 7$
 $= -3$

-3

3. Simplify. (1 mark each)

a) $4m + 8 - 8m + 6$
 $-4m + 14$

b) $-x^2 + 1 - 8x + 1 + 3x^2 - 1x$
 $2x^2 - 9x$

4. Solve (1 mark each). Do a check for (d) only. (1 mark)

a) $4 + n = 10$
 $-4 \quad -4$
 $n = 6$
 $n = 6$

b) $5 = -9 + p$
 $+9 \quad +9$
 $14 = p$
 $p = 14$

c) $\left(\frac{y}{-6}\right)^{x-6} = 2^{x-6}$
 $y = -12$
 $y = -12$

d) $\frac{-40}{4} = \frac{4m}{4}$
 $-10 = m$
 $m = -10$

Check d)

LS	RS
-40	4m
	= 4(-10)
	= -40

↓

5. Solve (2 marks each). Do a check for (a) only. (1 mark)

$$\begin{array}{r} 3x - 6 = 15 \\ +6 \quad +6 \\ \hline 3x = 21 \\ \frac{3x}{3} = \frac{21}{3} \\ \hline x = 7 \end{array}$$

$$\boxed{x=7}$$

Check:

LS	RS
$3x - 6$	15
$3(7) - 6$	
$21 - 6$	
15	

✓

$$\begin{array}{r} 5t + 6 - 9t = 6 - 8 \\ -4t + 6 = -2 \\ \quad -6 \quad -6 \\ \hline -4t = -8 \\ \frac{-4t}{-4} = \frac{-8}{-4} \end{array}$$

$$\boxed{t=2}$$

$$\begin{array}{r} \frac{c}{-2} - 9 = -5 \\ +9 \quad +9 \\ \hline \frac{c}{-2} = 4 \\ \frac{c \times -2}{-2} = \frac{4 \times -2}{-2} \end{array}$$

$$c = -8$$

$$\boxed{c=-8}$$

6. Solve (2 marks each).

$$\begin{array}{r} -2n + 5 = 3n - 10 \\ -3n \quad -3n \\ \hline -5n = -15 \\ \frac{-5n}{-5} = \frac{-15}{-5} \end{array}$$

$$n = 3$$

$$\boxed{n=3}$$

$$\begin{array}{r} 6x + 5 - 7x = -4 + 2x \\ -x + 5 = -4 + 2x \\ -2x \quad -5 \quad -5 \quad -2x \\ \hline -3x = -9 \\ \frac{-3x}{-3} = \frac{-9}{-3} \end{array}$$

$$\boxed{x=3}$$

$$c) \quad 4y + 4 - 3y = -y + 3$$

$$\begin{array}{r} y + 4 = -y + 3 \\ +y \quad -4 \quad +y \quad -4 \\ \hline 2y = -1 \end{array}$$

$$\frac{2y}{2} = \frac{-1}{2}$$

$$y = -\frac{1}{2}$$

$$\boxed{y = -\frac{1}{2}}$$

7. Expand. (1 mark each)

a) $-3(x-4)$
 $= -3x + 12$

$$\boxed{-3x + 12}$$

b) $4(5x - 3y + 7)$

$$\boxed{= 20x - 12y + 28}$$

8. Expand and Simplify. (2 marks each)

a) $3(m+5) - 2(m-3)$
 $= 3m + 15 - 2m + 6$
 $= m + 21$

$$\boxed{m + 21}$$

b) $4(x^2 - 6x + 4) - 5(x + 2)$
 $= 4x^2 - 24x + 16 - 5x - 10$
 $= 4x^2 - 29x + 6$

$$\boxed{4x^2 - 29x + 6}$$

9. Solve (3 marks each).

a) $2(x-3) - 3(x+4) = x - 14$
 $-2x - 6 - 3x - 12 = x - 14$
 $-5x - 18 = x - 14$
 $-5x - 18 = x - 14$
 $-2x - 18 = -14$
 $+18 \quad +18$
 $-2x = 4$
 $\frac{-2x}{-2} = \frac{4}{-2}$
 $x = -2$

$$\boxed{x = -2}$$

b) $-(y+2) + 3(y-2) = 5(y-1) + 6$
 $-y - 2 + 3y - 6 = 5y - 5 + 6$
 $2y - 8 = 5y + 1$
 $-5y \quad -5y$
 $-3y - 8 = 1$
 $+8 \quad +8$
 $-3y = 9$
 $\frac{-3y}{-3} = \frac{9}{-3}$
 $y = -3$

$$\boxed{y = -3}$$