

$$\textcircled{1} \frac{16x^3y^7}{2xy^9} \Rightarrow \frac{16}{2} x^{3-1} y^{7-9} \Rightarrow 8x^2y^{-2}$$

$$\boxed{\frac{8x^2}{y^2}}$$

$$\textcircled{2} 4^5 \cdot 7^5 \Rightarrow (4 \cdot 7)^5 \Rightarrow 28^5 \quad \text{exp. form} \quad \text{or std form } 17210368$$

$$\textcircled{3} (12x^5)^4 \div 3^4 \rightarrow \frac{12^4 x^{5 \cdot 4}}{3^4} \Rightarrow \left(\frac{12}{3}\right)^4 x^{20}$$

$$4^4 x^{20} \Rightarrow \boxed{256x^{20}}$$

$$\textcircled{4} (5^{\frac{1}{2}})^6 \Rightarrow 5^{\frac{1}{2} \cdot 6} \Rightarrow 5^3 \rightarrow \boxed{125}$$

$$\textcircled{5} (6x^3)^2 + m^0 \Rightarrow \frac{6^2 x^{3 \cdot 2} + 1}{\boxed{36x^6 + 1}}$$

$$\textcircled{6} 5^{-3} \cdot 8^2 \Rightarrow \frac{8^2}{5^3} \Rightarrow \boxed{\frac{64}{125}}$$

$$\frac{x^5}{x^3} = x^{5-3}$$

$$\textcircled{7} \frac{4^{10} x^2 y^3}{2^{10} x} \Rightarrow \left(\frac{4}{2}\right)^{10} x^{2-1} y^3 \Rightarrow 2^{10} x^1 y^3$$

$$\boxed{1024xy^3}$$

$$\textcircled{8} 4(7^2)^0$$

$$4(1)$$

$$\boxed{4}$$

$$\textcircled{9} 4x^{-5} y \cdot 5x^8$$

$$4 \cdot 5 x^{-5+8} y$$

$$\boxed{20x^3y}$$

$$\textcircled{10} \frac{2^3}{2^9}$$

$$2^{3-9}$$

$$2^{-6} \Rightarrow \frac{1}{2^6}$$

$$\boxed{\frac{1}{64}}$$

$\textcircled{2a}$  3 terms: trinomial

~~(2 terms: binomial)~~  
 1 term: monomial  
 4+ terms: polynomial

$\textcircled{2b} 2a^4 \rightarrow 2 \cdot a \cdot a \cdot a \cdot a$

$\textcircled{2c} -4$

$\textcircled{2d} 7$  (no variable)

$\textcircled{2e} 2a^4 - 4a + 7$  degree 4

$\textcircled{3} V \approx (3.14)(2.5)^2(10)$   
 $196.25 \text{ m}^3$

$\textcircled{4} A: -5(-4) + 6 = -16$   
 $20 + 6 = -16$   
 $26 = -16$

This is false  
 so  $x = -4$  is  
 not a sol'n

$B: 3(-4 + 2) = -6$   
 $3(-2) = -6$   
 $-6 = -6$

This is true  
 therefore  $x = -4$   
 is a sol'n

6) Jackie thinks  $4x+2=2+4x$  has  $\emptyset$ .  
 She needs to focus more on vocabulary  
 not placement.  
 $\infty$  is the correct answer b/c it has  
 the same coeff & constant.

7a  $-8 + \frac{2x}{3} = -14$

$+8$	$+8$
$\frac{3}{2} \cdot \frac{2x}{3}$	$= -6 \cdot \frac{3}{2}$
$x = -9$	

7b  $4(2y-5)+6=-14$

$4(2y) + 4(-5) + 6 = -14$	
$8y - 20 + 6 = -14$	
$8y - 14$	$= -14$
$\frac{8y}{8}$	$= \frac{0}{8}$
$y = 0$	

7c  $\frac{2x+5}{3} = \frac{x-6}{2}$

$2(2x+5) = 3(x-6)$   $y=0$

$*4x + 10$	$= 3x - 18$
$-3x$	$-3x$
$x + 10$	$= -18$
$-10$	$-10$
$x = -28$	

7d  $5y - 6 = 10x$  solve for y

$5y$	$= 10x + 6$
$\frac{5y}{5}$	$= \frac{10x + 6}{5}$

$y = \frac{10x+6}{5}$

OR

$y = \frac{10x}{5} + \frac{6}{5}$

$y = 2x + \frac{6}{5}$