

## Station 1 – Simplify with Exponents

1.  $(-2m \cdot n^{\frac{5}{9}} \cdot m^{-\frac{23}{15}})^6$

$$\frac{64n^{10/3}}{m^{16/5}}$$

2.  $\frac{2}{3}y^3(3y^7)^2$

$$6y^{17}$$

3.  $\frac{-15xy^{-5}z^7}{35wx^{-4}y^6z^{-4}}$

$$\frac{-3x^5z^{11}}{7wy^{11}}$$

4.  $\left(\frac{-18x^0a^{-3}}{-6x^{-2}a^{-3}}\right)^0$

1

5.  $\left(\frac{x^{\frac{1}{2}}y^{-2}}{yx^{-\frac{7}{4}}}\right)^{\frac{8}{9}} \cdot \frac{27x^{-1}y^{\frac{6}{5}}}{75x^0y^{\frac{3}{24}}}$

$$\frac{9x}{25y^{13/24}}$$

## Station 2 – Multiplying Polynomials

1.  $(2j+7)(2j-7)$

$$4j^2 - 49$$

2.  $(4x-9)^2$

$$16x^2 - 72x + 81$$

3.  $(3x^2-x-6)(2x^2+7x-3)$

$$6x^4 + 19x^3 - 28x^2 - 39x + 18$$

4.  $(11a-8b)(11a+8b)$

$$121a^2 - 64b^2$$

5.  $(6m+1)(6m-1)(3m+10)$

$$\downarrow$$

$$(36m^2-1)(3m+10)$$

$$108m^3 + 360m^2 - 3m - 10$$

### Station 3 – Simplify with Adding & Subtracting

1.  $(4a-10b+7c)+(-5a+2c+2b)$

$$-a - 8b + 9c$$

2.  $(-3m+9mn-5n)+(2n+14m-5mn)$

$$11m + 4mn - 3n$$

3.  $(17z^4-5z^2+3z)-(4z^4+2z^3+3z)$

$$13z^4 - 2z^3 - 5z^2$$

4.  $(6-7y+3y^2)+(3-2y^2-5y)-(7-c+7c^2)$

$$2 - 12y + y^2 + c - 7c^2$$

### Station 4 – Distribute

1.  $\frac{3}{2}x^2(8x-6)$

$$12x^3 - 9x^2$$

2.  $x(x-6)+x(x-2)+2x$

$$2x^2 - 6x$$

3.  $-7xy+x(7y-3)$

$$-3x$$

4.  $4n(n-1)-5(n^2+n)$

$$-n^2 - 9n$$

## Station 5 – Solve

1.  $w(w-5) + w(w+2) = 2w(w-1) + 1.5$

$w = -1.5$

2.  $(21^{7m-13} \cdot 21^{10-3m})^2 = 21^8 \cdot 21^{2m+4}$

$m = 3$

3.  $\left(\frac{16^{-4x-1}}{4^{1-5x}}\right)^5 = (64^{2x})^{-2}$

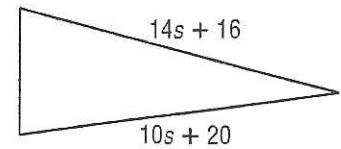
$x = -5$

4.  $\left(\frac{7^{3k+17}}{7^{1-7k}}\right)^2 = \frac{1}{49}$

$k = -1.7$

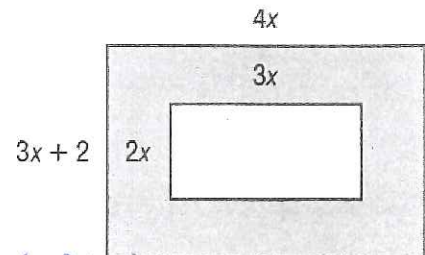
## Station 6 – Miscellaneous

1. The measure of the perimeter of the triangle shown is  $37s + 42$ . Find the measure of the third side.



$13s + 6$

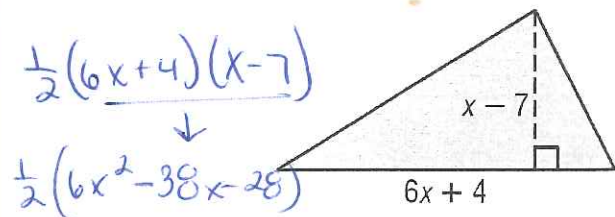
2. Find the area of the shaded region.



$(4x)(3x+2) - (2x)(3x)$   
 $12x^2 + 8x - 6x$

$6x^2 + 8x$

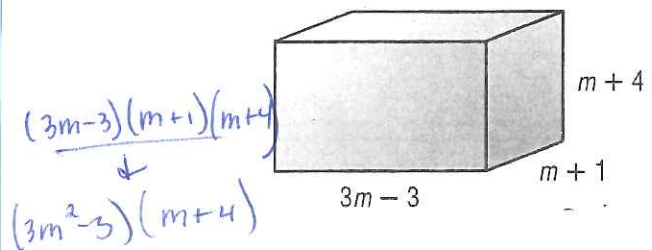
3. Find the area of the triangle.



$\frac{1}{2}(6x+4)(x-7)$   
 $\downarrow$   
 $\frac{1}{2}(6x^2 - 38x - 28)$

$3x^2 - 19x - 14$

4. Find the volume of the rectangular prism.



$(3m-3)(m+1)(m+4)$   
 $\downarrow$   
 $(3m^2-3)(m+4)$

$3m^3 + 12m^2 - 3m - 12$