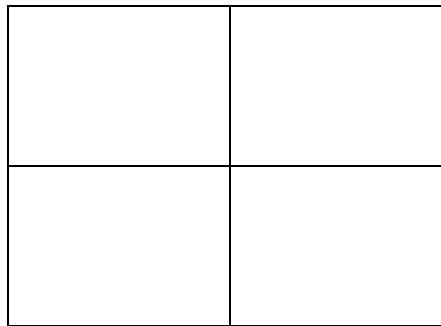# STATION #1 EQUIVALENT EXPRESSIONS

Make THREE boxes with 2 rows and 2 columns.
EX:

Fill each grid with the 4 expressions that are equivalent.

(Hint: simplify each expression to a *single* power)

$2x^2 \cdot - 8x^5$ $\qquad\qquad$ $18\,x^2$ $\qquad\qquad$ $3\,x^{-5} \cdot 6x^7$ $\qquad\qquad$ $(-2)^4 \cdot x^5 \cdot x^{-2}$

$(-3x^5)(-2x^{-1})(3x^{-2})$ $\qquad$ $-16x^7$ $\qquad\qquad$ $2x^{-3} \cdot 8x^{10} \cdot x^{-4}$ $\qquad$ $4x \cdot (-x^3) \cdot 4x^3$

$2x^2 \cdot 2x \cdot 2x \cdot 2x^{-1}$ $\qquad$ $9x^{-1} \cdot x^{-1} \cdot 2x \cdot x^3$ $\qquad\qquad$ $16x^3$ $\qquad\qquad$ $(-x) \cdot 2x \cdot 2x \cdot 4x^2 \cdot x^2$

STATION #1 EQUIVALENT EXPRESSIONS   **KEY**

$2x^2 \cdot - 8x^5$	$4x \cdot (-x^3) \cdot 4x^3$
$(-x) \cdot 2x \cdot 2x \cdot 4x^2 \cdot x^2$	$-16x^7$

$3x^{-5} \cdot 6x^7$	$9x^{-1} \cdot x^{-1} \cdot 2x \cdot x^3$
$(-3x^5)(-2x^{-1})(3x^{-2})$	$18x^2$

$(-2)^4 \cdot x^5 \cdot x^{-2}$	$2x^{-3} \cdot 8x^{10} \cdot x^{-4}$
$2x^2 \cdot 2x \cdot 2x \cdot 2x^{-1}$	$16x^3$

STATION #2   EXPANDED FORM/ EXPONENT FORM

Write the EXPANDED FORM OF EACH:

1. x^6

2. $x^4 \cdot x^3$

3. $(-2)^6$

Write each in EXPONENTIAL FORM

4. (-2) (-2) (-2) (-2) (-2)

5. $x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$

6. $4 \cdot 4 \cdot 4 \cdot x \cdot x \cdot x \cdot x$

Write each in STANDARD FORM

7. 4^3

8. -6^4

STATION #2 EXPANDED FORM/ EXPONENT FORM
KEY

Write the EXPANDED FORM OF EACH:

  2. x^6

  2. $x^4 \cdot x^3$

  3. $(-2)^6$

Write each in EXPONENTIAL FORM

  4.   (-2) (-2) (-2) (-2) (-2)

  5. $x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$

  6. $4 \cdot 4 \cdot 4 \cdot x \cdot x \cdot x \cdot x$

Write each in STANDARD FORM

  7. 4^3

  8. 3^4

STATION #3   NEGATIVE BASES

Write in STANDARD FORM

    1. -2^5

    2. $(-3)^4$

    3. $(-8)^2$

    4. -7^3

STATION #4   MULTIPLYING POWERS

Simplify each expression:

    1. $4x^3 \cdot 3x^5$ 2. $-2x^5 \cdot 6y^2 \cdot x^4$

    3. $-8x^4 \cdot x \cdot 4y^5 \cdot 2x^2$ 4. $7x^3 \cdot 8x^{-2} \cdot x$

STATION #3   NEGATIVE BASES   **KEY**

Write in STANDARD FORM

    2. -2^5

    2. $(-3)^4$

    3. $(-8)^2$

    4. $-7x^3$

STATION #4   MULTIPLYING POWERS   **KEY**

Simplify each expression:

    2. $4x^3 \cdot 3x^5$ 2. $-2x^5 \cdot 6y^2 \cdot x^4$

    3. $-8x^4 \cdot x \cdot 4y^5 \cdot 2x^2$ 4. $7x^3 \cdot 8x^{-2} \cdot x$