**Secondary Math 2 5.1 Homework Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_**

**Exponent Rules**

1. **Simplify each expression. Make sure your answers do not contain negative exponents.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| a) | $$x^{7}∙x^{3}=$$ | b) | $$\frac{x^{4}}{x^{6}}=$$ | c) | $$\left(x^{2}\right)^{3}=$$ |

1. **Simplify each expression. Make sure your answers do not contain negative exponents.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| a) | $$\frac{3x^{-1}y^{2}}{4x^{-3}y^{0}}=$$ | b) | $$\frac{x^{11}y^{10}}{x^{-3}y^{18}}=$$ | c) | $$\frac{4x^{3}n^{3}}{2n^{-3}}=$$ |

**Review Problems:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Solve for x. Assume lines that appear to be tangent are tangent: |  | Find the value of *t*. Assume $m\hat{CB}\tilde{=}m\hat{DB}$. |
|  | Solve for x and y: |  | A stick 2 m long is placed vertically at point *B.* The top of the stick is in line with the top of a tree as seen from point *A,* which is 3 m from the stick and 30 m from the tree. How tall is the tree? (hint use similar triangles) |

**Simplify each expression. Your answers should contain only positive exponents.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | $$\frac{\left(2m^{2}n^{3}\right)^{4}}{mn^{3}∙m^{2}n^{3}∙m^{3}n^{0}}$$ |  | $$\frac{2x^{4}y^{-2}∙2x^{-4}y^{-1}}{\left(2x^{3}y^{3}\right)^{-1}}$$ |