Name:

Date:

**Powers of Products and Quotients**

**Simplify.**

1) $(12\,x^2\,y^5)^2$

2) $(5\,x^4)^2$

3) $\left(\frac{x^8}{x^6\,y^2}\right)^2 =$

4) $(4\,x^4\,y^6)^5$

5) $(11\,x^5)^2$

6) $(2 \times 2^4)^2 =$

7) $(4^2)^2 =$

8) $(3^3 \times 3^2)^3 =$

9) $(3\,x^2\,y^2)^2$

10) $(2\,x^4\,y^4)^3$

**Answer Key - www.testinar.com**

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1) $(12\ x^2\ y^5)^2$

$144\ x^4\ y^{10}$

2) $(5\ x^4)^2$

$25\ x^8$

3) $\left(\frac{x^8}{x^6\ y^2}\right)^2 =$

$\frac{x^4}{y^4}$

4) $(4\ x^4\ y^6)^5$

$1024\ x^{20}\ y^{30}$

5) $(11\ x^5)^2$

$121\ x^{10}$

6) $(2 \times 2^4)^2 =$

$2^{10}$

7) $(4^2)^2 =$

$4^4$

8) $(3^3 \times 3^2)^3 =$

$3^{15}$

9) $(3\ x^2\ y^2)^2$

$9\ x^4\ y^4$

10) $(2\ x^4\ y^4)^3$

$8\ x^{12}\ y^{12}$