Math 432 Name_____

Quiz Review: Polynomials, Factoring, Solving Equations

Date_____

Simplify the expression.

1) $(7v^4 + 7v^2 - 5v^3) + (8v^3 - 6v^4 - 4v^2)$

Find each product.

2) $(6n - 6)(2n + 2)$

3) $(4m^2 + 5n^2)(4m^2 - 5n^2)$

Factor completely.

4) $49p^3 + 21p^2 + 35p + 15$

5) $18xy^2 - 54x + 63$

Factor completely.

6) $18r - 96r^2 + 128r^3$

7) $-9n^2 + 53n - 40$

Solve each equation. Leave in simplest form.

8) $2n^2 + 8n = 64$

9) $x^2 - 2 = -x$

10) $m^2 = 3m$

Solve the equation. Leave in simplest form.

11) $3n^2 - 20 = 952$

Simplify. Your answer should contain only positive exponents.

12) $\left(-x^{-5}y^2\right)^3 \cdot -2x^4y^5$

13) $\dfrac{a^2}{\left(-a^3b^3\right)^{-1} \cdot (-2a)^4}$

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Simplify the expression.

1) $(7v^4 + 7v^2 - 5v^3) + (8v^3 - 6v^4 - 4v^2)$

$v^4 + 3v^3 + 3v^2$

Find each product.

2) $(6n - 6)(2n + 2)$

$12n^2 - 12$

3) $(4m^2 + 5n^2)(4m^2 - 5n^2)$

$16m^4 - 25n^4$

Factor completely.

4) $49p^3 + 21p^2 + 35p + 15$

$(7p^2 + 5)(7p + 3)$

5) $18xy^2 - 54x + 63$

$9(2xy^2 - 6x + 7)$

Factor completely.

6) $18r - 96r^2 + 128r^3$

$2r(3 - 8r)^2$

7) $-9n^2 + 53n - 40$

$-(n - 5)(9n - 8)$

Solve each equation. Leave in simplest form.

8) $2n^2 + 8n = 64$

$\{4, -8\}$

9) $x^2 - 2 = -x$

$\{1, -2\}$

10) $m^2 = 3m$

$\{3, 0\}$

Solve the equation. Leave in simplest form.

11) $3n^2 - 20 = 952$

$\{18, -18\}$

Simplify. Your answer should contain only positive exponents.

12) $\left(-x^{-5}y^2\right)^3 \cdot -2x^4y^5$

$\frac{2y^{11}}{x^{11}}$

13) $\frac{a^2}{\left(-a^3b^3\right)^{-1} \cdot (-2a)^4}$

$-\frac{b^3a}{16}$