Algebra 2 Name_____ ID: 1

Assignment

Date_____ Period____

Find the common difference, the term named in the problem, and the explicit formula.

1) $-5,\ 15,\ 35,\ 55, \ldots$
Find a_{23}

2) $1,\ -9,\ -19,\ -29, \ldots$
Find a_{33}

3) $-26,\ 74,\ 174,\ 274, \ldots$
Find a_{25}

4) $-5,\ 4,\ 13,\ 22, \ldots$
Find a_{35}

Find the common ratio, the term named in the problem, and the explicit formula.

5) $4,\ -8,\ 16,\ -32, \ldots$
Find a_{11}

6) $-1,\ -3,\ -9,\ -27, \ldots$
Find a_{10}

7) $-2,\ -4,\ -8,\ -16, \ldots$
Find a_{10}

8) $-1,\ 2,\ -4,\ 8, \ldots$
Find a_{11}

Simplify. Your answer should contain only positive exponents.

9) $2vu^3 \cdot 3u^2v^4$

10) $4u^{-3}v^{-1} \cdot 4uv^{-2}$

11) $\dfrac{3y^4 \cdot 3xy^3}{4x^3y^{-2}}$

12) $\dfrac{2x^3y^{-2} \cdot 4y^4}{x^{-3}y^4}$

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

14) $\left(x^3\right)^4 \cdot xy \cdot xy^{-2}$

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

15) $\left(yx^{\frac{1}{2}}\right)^{\frac{1}{2}}$

16) $\left(u^{\frac{1}{2}}v^{2}\right)^{\frac{3}{2}}$

Write each expression in exponential form.

17) $\left(\sqrt[5]{2n}\right)^{2}$

18) $\sqrt{7v}$

19) $\left(\sqrt[3]{7n}\right)^{2}$

20) $\left(\sqrt[5]{x}\right)^{4}$

21) State the domain and range of the function $f(x) = 3 \cdot 4^{X}$