

Secondary Math 2 Homework

Name Key

Date _____ Period _____

1.3/Unit 1 Review

Find each product.

1) $(p-4)(5p+3)$

$$5p^2 - 17p - 12$$

2) $(8r-3)(3r-7)$

$$24r^2 - 65r + 21$$

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

$$8n^2 + 2n - 15$$

4) $(x-3)(4x+4)$

$$4x^2 - 8x - 12$$

5) $(7n+6)(8n-2)$

$$56n^2 + 34n - 12$$

6) $(3p-2)(7p+5)$

$$21p^2 + p - 10$$

7) $(2n+7)(3n-8)$

$$6n^2 + 5n - 56$$

8) $(r+7)(8r+1)$

$$8r^2 + 57r + 7$$

9) $(7b^2+4b+6)(6b-3)$

$$42b^3 + 3b^2 + 24b - 3$$

10) $(6k^2+7k+2)(k+7)$

$$6k^3 + 49k^2 + 51k + 14$$

11) $(x^2+5x-6)(7x+5)$

$$7x^3 + 40x^2 - 17x - 30$$

12) $(3v+8)(3v^2-6v-4)$

$$9v^3 + 6v^2 - 54v - 32$$

13) $(k-6)(2k^2+3k-6)$

$$2k^3 - 9k^2 - 24k + 36$$

14) $(7b-4)(6b^2-8b-1)$

$$42b^3 - 80b^2 + 25b + 4$$

Simplify each expression.

15) $(4-6x^2+3x^4)+(5x^4+7-8x^2)$

$$8x^4 - 14x^2 + 11$$

16) $(7x^4+8-4x^3)+(4-x^3-8x^4)$

$$-x^4 - 5x^3 + 12$$

17) $(4-8n^2-4n^4)-(3n^2-4n^4-1)$

$$-11n^2 + 5$$

18) $(7k+7k^2-3)-(6-7k^2-2k)$

$$14k^2 + 9k - 9$$

19) $(7n^4+6n^3-5n)-(3n+6n^4+n^3)$

$$n^4 + 5n^3 - 8n$$

20) $(5a^3+8a-1)+(4+3a+5a^3)$

$$10a^3 + 11a + 3$$

Simplify. Your answer should contain only positive exponents.

21) $2x^{-3}y^{-1} \cdot x^{-3}y^{-1}$

$$\frac{2}{x^6 y^2}$$

22) $x^4 y^3 \cdot 4y^3$

$$4x^4 y^6$$

23) $\frac{4p^{-2} \cdot 2p}{2p^3}$

$$\frac{4}{p^4}$$

24) $\frac{2m \cdot 2m^3}{4m^2}$

$$m^2$$

$$25) x^{\frac{5}{3}} \cdot 4x^{\frac{5}{3}}$$

$$4x^{\frac{10}{3}}$$

$$26) 4x \cdot 4x^{\frac{3}{2}} \cdot 3x$$

$$48x^{\frac{7}{2}}$$

$$27) \frac{4x^{-\frac{1}{3}} \cdot x^{\frac{1}{4}}}{3x^{\frac{2}{3}}}$$

$$\frac{4}{3x^{\frac{3}{4}}}$$

$$28) \frac{4b^{-1}}{4b^{\frac{5}{4}} \cdot 4b^{\frac{5}{4}}}$$

$$\frac{1}{4b^{\frac{7}{2}}}$$

$$29) \frac{2x^{-1}}{3x^{\frac{2}{3}} \cdot 3x^2}$$

$$\frac{2}{9x^{\frac{11}{3}}}$$

$$30) \frac{4r^2}{4r^{\frac{2}{3}} \cdot 2r^1}$$

$$2r^{\frac{5}{3}}$$

$$31) \left(\frac{5}{v^4}\right)^{\frac{1}{2}} \cdot v^{\frac{1}{2}}$$

$$v^{\frac{9}{8}}$$

$$32) \left(b^{\frac{1}{2}}\right)^{-2} \cdot (b^2)^{\frac{2}{3}}$$

$$b^{\frac{1}{3}}$$

$$33) (x^{-2})^{-1} \cdot \left(\frac{3}{x^4}\right)^{-\frac{4}{3}}$$

X

$$34) v^{\frac{7}{4}} \cdot \left(\frac{5}{v^4}\right)^{-2}$$

$$\frac{1}{v^{\frac{3}{4}}}$$

With each polynomial, name the type, the degree, how many terms, all coefficients, and all constants.

35) $3x^2 + 5x - 2$

Type: Quadratic Trinomial

Degree: 2

Number of terms: 3

Coefficients: 3, 5

Constants: -2

36) $6x + 1$

Type: Linear binomial

Degree: 1

Number of terms: 2

Coefficients: 6

Constants: 1

37) $-3x^5 + 2x^2 - 5$

Type: 5th degree trinomial

Degree: 5

Number of terms: 3

Coefficients: -3, 2

Constants: -5

38) $7x^4 + 12x^3 - x + 4$

Type: 4th degree polynomial

Degree: 4

Number of terms: 4

Coefficients: 7, 12, -1

Constants: 4

39) $-x$

Type: Linear monomial

Degree: 1

Number of terms: 1

Coefficients: -1

Constants: 0

40) $4x^3 - 2x$

Type: 3rd degree binomial
cubic binomial

Degree: 3

Number of terms: 2

Coefficients: 4, 2

Constants: 0

Radicals and Exponents Review

Write each expression in radical form.

1) $(5n)^{\frac{1}{3}}$ $\sqrt[3]{5n}$

2) $(10b^2)^{\frac{1}{6}}$ $\sqrt[6]{10b^2}$

3) $x^{\frac{2}{3}}$ $(\sqrt[3]{x})^2$

4) $(6b)^{\frac{1}{2}}$ $\sqrt{6b}$

5) $(3x^4)^{\frac{1}{2}}$ $\sqrt{3x^4}$

6) $(2x^3)^{\frac{1}{3}}$ $\sqrt[3]{2x^3}$

7) $(8x^3)^{\frac{1}{5}}$ $\sqrt[5]{8x^3}$

8) $(3x^7)^{\frac{1}{2}}$ $\sqrt{3x^7}$

Write each expression in exponential form.

9) $(\sqrt[4]{5k})^7$ $(5k)^{\frac{7}{4}}$

10) $(\sqrt{6n})^3$ $(6n)^{\frac{3}{2}}$

11) $\sqrt[4]{3a}$ $(3a)^{\frac{1}{4}}$

12) $(\sqrt{a})^5$ $a^{\frac{5}{2}}$

13) $\sqrt{5x^2}$ $(5x^2)^{\frac{1}{2}}$

14) $\sqrt{12x^3}$ $(12x^3)^{\frac{1}{2}}$

15) $\sqrt[3]{6x^2}$ $(6x^2)^{\frac{1}{3}}$

16) $\sqrt[5]{3x^3}$ $(3x^3)^{\frac{1}{5}}$