

Grab a Week #13 Packet Bell Ringer

Monday 11/11

Simplify.

1. $3x^{\frac{1}{2}}x^{\frac{5}{2}}$

$$3 \cdot x^{\frac{1}{2}} \cdot x^{\frac{5}{2}}$$

$$= 3x^{\frac{1}{2} + \frac{5}{2}}$$

$$= 3x^3$$

2. $(4x^{\frac{-3}{4}})^{\frac{2}{3}}$

$$4^2 \cdot x^{-\frac{6}{4}}$$

$$= \frac{16}{x^{\frac{3}{2}}} = \frac{16}{x^{3/2}}$$

3. $\frac{30x^{\frac{1}{2}}y^3}{6x^2y^4z}$

$$= \frac{5x^{\frac{1}{2}-2}y^{3-4}}{z}$$

$$= \frac{5x^{-3/2}y^{-1}}{z}$$

$$= \frac{5}{x^{3/2}yz}$$

Graphing Quadratic Inequalities ws due
tomorrow

Final Test Thursday and Friday

All Ch 3 hw due Wed 11/13

All Ch 3 Standard Retakes due Fri 11/15

Review...

Rewrite in radical form

$$x^{\frac{2}{3}} = \sqrt[3]{x^2} \quad 7x^{\frac{2}{3}} = 7\sqrt[3]{x^2} \quad (9x)^{\frac{5}{4}} = \sqrt[4]{(9x)^5}$$

Rewrite in exponential form

$$\sqrt[3]{x^5} = x^{\frac{5}{3}} \quad \sqrt[4]{2x^5} = 2^{\frac{1}{4}} x^{\frac{5}{4}} \quad \sqrt{(3x)^5} = (3x)^{\frac{5}{2}}$$

Simplify. Answers should contain only positive exponents

$$7a^{\frac{2}{3}} \cdot 2a^{\frac{5}{3}}$$

$$7 \cdot 2 \cdot a^{\frac{2}{3}} \cdot a^{\frac{5}{3}}$$

$$14a^{\frac{7}{3}}$$

$$4x^0 \cdot x^{\frac{2}{7}}$$

$$4x^{\frac{2}{7}}$$

$$\sqrt[2]{9}$$

$$(9x^{-3}y^8)^{\frac{1}{2}}$$

$$9^{\frac{1}{2}} x^{-\frac{3}{2}} y^4$$

$$\frac{3y^4}{x^{\frac{3}{2}}}$$

Simplify. Answers should contain only positive exponents

$$\frac{7x^{-2}y^{-1}}{14x^5y^{\frac{1}{2}}} = \frac{1x^{-2-5}y^{-1-\frac{1}{2}}}{2}$$

$$= \frac{1}{2x^7y^{\frac{3}{2}}}$$

$$\left(\frac{x^{\frac{2}{3}}y^{\frac{1}{2}}}{x^5} \right)^{\frac{5}{6}}$$

$$\frac{x^{\frac{10}{18}}y^{\frac{5}{12}}}{x^{\frac{25}{6}}} = x^{\frac{-65}{18}}y^{\frac{5}{12}}$$

$$= \frac{y^{\frac{5}{12}}}{x^{\frac{65}{18}}}$$

Simplify

$$(2x - 3)(7x + 5) =$$

	$2x$	-3	
$7x$	$14x^2$	$-21x$	
$+5$	$+10x$	-15	

$$14x^2 - 11x - 15$$

~~$$16n^2 - 49$$~~

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

$$(4n - 7)(4n - 7)$$

$$16n^2 - 28n - 28n + 49$$

$$16n^2 - 56n + 49$$

Factor the polynomial

$$6x^4 + 21x^3 - 10x^2 - 35x$$

$$x(6x^3 + 21x^2 - 10x - 35)$$

$$x[3x^2(2x+7) - 5(2x+7)]$$

$$x(2x+7)(3x^2-5)$$

$$x(2x+7)(3x^3-5x)$$

$$x(3x^2-5)$$

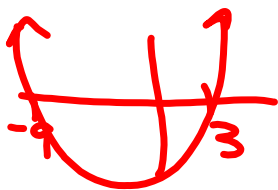
Solve the equation.

$$x^2 + 6x - 27 = 0$$

$$\begin{array}{r} -27 \\ \wedge \\ -1 \quad 27 \\ | \quad -27 \\ \hline -3 \quad 9 \\ 3 \quad -9 \end{array}$$

$$(x - 3)(x + 9) = 0$$

$$\begin{array}{l} x - 3 = 0 \\ \quad +3 \quad +3 \\ x = 3 \end{array} \quad \begin{array}{l} x + 9 = 0 \\ \quad -9 \quad -9 \\ x = -9 \end{array}$$



$$16x^2 + 8x = 0$$

$$8x(2x + 1) = 0$$

$$\begin{array}{l} 8x = 0 \\ \quad \div 8 \\ \hline x = 0 \end{array}$$

$$2x + 1 = 0$$

$$2x = -1$$

$$\begin{array}{l} \div 2 \\ \hline x = -\frac{1}{2} \end{array}$$

due Thursday

Math 2A Final Review Part 1

 Name _____
 Hour _____

 ____ 1. Write $(4x)^{\frac{2}{3}}$ in radical form.

a. $4\sqrt[3]{x^2}$

b. $(\sqrt{4x})^3$

c. $(\sqrt[3]{4x})^2$

d. $\sqrt{4x}$

 ____ 2. Write $(\sqrt{3x})^3$ in exponential form.

a. $(3x)^{\frac{3}{2}}$

b. $(3x)^{\frac{2}{3}}$

c. $\frac{1}{(3x)^{\frac{3}{2}}}$

d. $3x^{\frac{3}{2}}$

 ____ 3. Simplify $3m^{\frac{3}{2}} \cdot 3m^{\frac{2}{3}}$

a. $3m$

b. $6m^{\frac{3}{2}}$

c. $9m^{\frac{13}{6}}$

d. $3m^{\frac{13}{6}}$

 ____ 4. Simplify $3x^0 x^{\frac{1}{2}}$

a. 3

b. $3x$

c. 1

d. $3x^{\frac{1}{2}}$

 ____ 5. Simplify $(64m^6)^{\frac{3}{2}}$

a. $64m^9$

b. $512m^9$

c. $8m^2$

d. $512m^{\frac{15}{2}}$

 ____ 6. Simplify $\frac{4xy^{-2}}{2xy^{\frac{5}{3}}}$

a. $2x^2 y^{\frac{1}{3}}$

b. $\frac{2}{y^{\frac{1}{3}}}$

c. $\frac{2}{y^{\frac{11}{3}}}$

d. $\frac{2x^2}{y^{\frac{11}{3}}}$

 ____ 7. Simplify $\frac{4k^{-\frac{2}{3}}}{k^{\frac{1}{2}}}$

a. $\frac{4}{k^{\frac{7}{6}}}$

b. $4k^{\frac{7}{6}}$

c. $\frac{4}{k^{\frac{7}{6}}}$

d. $\frac{1}{4k^{\frac{7}{6}}}$

Math 2A Final Review Part 1

Name _____
Hour _____

____ 8. Simplify $\left(\frac{x^4 y^{\frac{3}{2}}}{y^2}\right)^{\frac{1}{3}}$

a. $\frac{x^{\frac{7}{12}}}{y^{\frac{1}{6}}}$

b. $\frac{y^{\frac{11}{12}}}{x^{\frac{7}{8}}}$

c. $x^2 y^3$

d. $y^{\frac{3}{2}} x^{\frac{11}{3}}$

____ 9. Simplify $\left(xy^{\frac{5}{3}}\right)^{\frac{2}{3}}$

a. $y^4 x^{\frac{10}{3}}$

b. $x^3 y^{\frac{3}{2}}$

c. $x^{\frac{2}{3}} y^{\frac{10}{9}}$

d. y^4

____ 10. Simplify $(3v + 6)(6v^2 - 7v - 8)$

a. $18v^3 + 15v^2 - 66v - 48$

b. $20v^3 + 56v^2 + 44v + 24$

c. $18v^3 - 21v^2 - 30v - 48$

d. $6v^2 - 4v - 2$

____ 11. Simplify $(4x - 6)(4x + 6)$

a. $16x^2 + 48x + 36$

b. $16x^2 - 48x + 36$

c. $x^2 - 16x + 64$

d. $16x^2 - 36$

____ 12. Simplify $(5n + 1)^2$

a. $25n^2 - 1$

b. $25n^2 + 1$

c. $10n + 2$

d. $25n^2 + 10n + 1$

____ 13. Simplify $(2x - 3)(3x + 1)$

a. $6x^2 - 7x - 3$

b. $6x^2 + 11x + 3$

c. $6x^2 + 5x - 25$

d. $3x^2 - 8x + 5$

Math 2A Final Review Part 1

Name _____

Hour _____

____ 14. Factor $k^2 - 7k - 30$ completely.

- a.
- $(k + 10)(k + 3)$
- b.
- $(k - 10)(k + 3)$
- c.
- $(k + 10)(k - 3)$
- d.
- $(k + 30)(k - 1)$

____ 15. Factor $4a^2 + 16a - 240$ completely.

- a.
- $4(a + 20)(a - 3)$
- b.
- $4(a - 6)(a + 10)$
- c.
- $4(a - 6)(a - 10)$
- d.
- $4(a + 6)(a - 10)$

____ 16. Factor $6n^3 + 21n^2 - 10n - 35$ completely.

- a.
- $(3n^2 - 5)(3n^2 - 7)$
- b.
- $(3n^2 - 5)(2n + 7)$
- c.
- $(3n^2 + 5)(2n - 7)$
- d.
- $(2n - 5)(3n^2 + 7)$

____ 17. Factor $m^2 - 25$ completely.

- a.
- Not factorable*
- b.
- $(m - 5)(m - 5)$
- c.
- $(m + 5)(m - 5)$
- d.
- $(m + 25)^2$

____ 18. Factor $5n^2 - 21n + 4$ completely.

- a.
- $(5n + 4)(n + 1)$
- b.
- $5(n - 4)(n + 4)$
- c.
- $(5n - 1)(n - 4)$
- d.
- $(5n + 2)(n + 2)$

____ 19. Factor $2a^3 - 23a^2 + 56a$ completely.

- a.
- $2a(a + 28)(a + 1)$
- b.
- $a(2a - 7)(a - 8)$
- c.
- $2a(a - 7)(a + 8)$
- d.
- Not factorable*

____ 20. Find the x intercepts of $x^2 - 2x - 15 = 0$.

- a.
- $(-3, 0), (5, 0)$
- b.
- $(3, 0), (-5, 0)$
- c.
- $(7, 0), (5, 0)$
- d.
- $(-2, 0)$

Math 2A Final Review Part 1

Name _____
Hour _____

____ 21. Solve $4n^2 + 20n = 0$

- a. $n = 5, n = 0$ b. $n = -5, n = 0$ c. $n = 7, n = 0$ d. $n = 5$

____ 22. Find the vertex of $f(x) = x^2 - 4x + 3$

- a. $(2, -1)$ b. $(-2, -15)$ c. $(-2, 7)$ d. $(0, 1)$

____ 23. Find the vertex of $f(x) = -x^2 + 2x - 4$

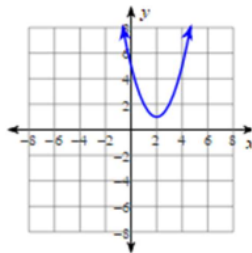
- a. $(1, -3)$ b. $(1, -1)$ c. $(-1, -7)$ d. $(0, -4)$

____ 24. Identify the vertex, axis of symmetry, and min/max value of $y = (x+1)^2 + 2$. Then match it to the correct graph.

a. Vertex: $(2, 1)$

Axis of Symm: $x = 2$

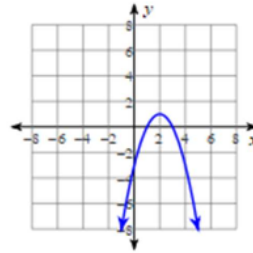
Min value = 1



b. Vertex: $(2, 1)$

Axis of Symm: $x = 2$

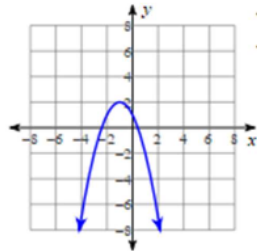
Max value = 1



c. Vertex: $(-1, 2)$

Axis of Symm: $x = -1$

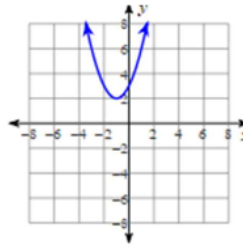
Max value = 2



d. Vertex: $(-1, 2)$

Axis of Symm: $x = -1$

Min value = 2



____ 25. Given the following criteria, identify the correct equation. An absolute value function that has been shifted right 3, and has been shifted up 2, reflected over the x-axis, and has a vertical stretch of 4.

- a. $f(x) = -|x + 3| + 2$ b. $f(x) = -4|x + 3| + 2$
c. $f(x) = 4|x - 3| + 2$ d. $f(x) = -4|x - 3| + 2$

