Name_____   Unit 8 Review

1 Which is equivalent to $\left(2x^2\right)^3$?

A: $8x^6$

B: $6x^6$

C: $8x^5$

D: $6x^5$

4 When simplified, $\left(2x^2y^3\right)^4$ equals:

A: $8x^6y^7$

B: $8x^8y^{12}$

C: $16x^6y^7$

D: $16x^8y^{12}$

2 Simplify $(2x^0y^5)^2$

A: $4x^2y^7$

B: $4y^{10}$

C: $4xy^{10}$

D: $2x^2y^{10}$

5 If $ab \neq 0$, which is equivalent to $\dfrac{-12a^3b^2}{6ab^2}$?

A: $2a^2b$

B: $-2a^2$

C: $-6a^2b$

D: $6a^4b^4$

3 If $z \neq 0$,

$\dfrac{24y^2z^3}{6z} =$

A: $18y^2z^2$

B: $16y^2z^2$

C: $4yz^3$

D: $4y^2z^2$

6 Which is equivalent to: $\dfrac{8x^{-3}y^2}{2z^{-4}}$

A: $\dfrac{4x^3y^2}{z^4}$

B: $\dfrac{4y^2z^4}{x^3}$

C: $\dfrac{6x^3y^2}{z^4}$

D: $\dfrac{6y^2z^4}{x^3}$

7 Which is equivalent to $\left(-2ab^3\right)\left(-3a^2b^5\right)$?

A: $-5ab$

B: $6a^2b^{15}$

C: $6a^3b^2$

D: $6a^3b^8$

10 Which is equivalent to $\dfrac{x^5y^2z^8}{(xy)^{-3}}$?

A. $\dfrac{x^2z^8}{y}$

B. $x^{12}y^8z^8$

C. $\dfrac{-x^4yz^8}{3}$

D. $x^8y^5z^8$

8 If $y \neq 0$, which expression is equivalent to the one shown below?

$$\left(\frac{xy^2}{y^4}\right)^6$$

A: $\dfrac{x^6}{y^{12}}$

B: $\dfrac{x}{y^2}$

C: $\dfrac{x^7}{y^8}$

D: $\dfrac{6x}{y^2}$

9 In simplest radical form, $\sqrt{64x^{10}y^{16}}$ is equal to —

A: $8x^5y^8$

B: $32x^5y^8$

C: $8x^{10}y^{16}$

D: $32x^{10}y^{16}$

11) $5\sqrt[3]{27}$ is equivalent to --

A: 15

B: $\sqrt[3]{27}$

C: 2

D: 3

E: 27

12) $2\sqrt{5}$ is the simplest radical form of which expression?

A: $\sqrt{10}$

B: $\sqrt{20}$

C: $\sqrt{50}$

D: $\sqrt{100}$

13) Identify **each** expression that is **NOT** in simplest radical form.

A: $x\sqrt{50y}$

B: $64\sqrt{x}$

C: $7x^2y\sqrt{2xy}$

D: $\sqrt{12x^3y^4}$

14 Written in simplest radical form, $\sqrt{32}$ is equal to --

A: $2\sqrt{4}$

B: $2\sqrt{16}$

C: $4\sqrt{2}$

D: $8\sqrt{2}$

15 Simplify this expression: $\sqrt[3]{16a^3b^8c^6}$

16 Simplify the radical expression:
$$\sqrt{9a^4b^4}$$

A: $25\sqrt{3a^5b^6}$

B: $5a^2b^3\sqrt{3a}$
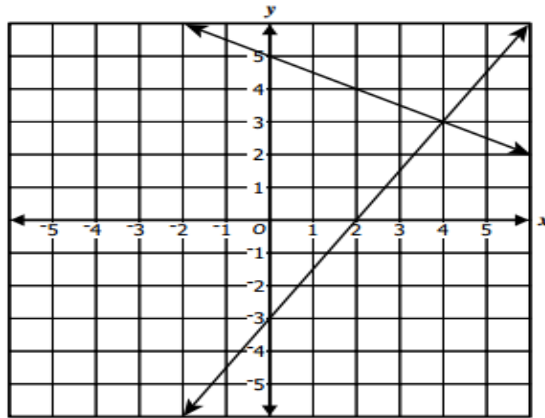
C: $ab\sqrt{75}$

D: $3a^2b^2$

Unit 8 Spiral Review

1. **This is the graph of a system of linear equations.**

Based upon the graph, which is the apparent solution to the system of equations?

A $(2, 5)$

B $(3, 4)$

C $(4, 3)$

D $(5, 2)$

2. What is the solution to the system of equations shown?

$$\begin{cases} 2x + y = 4 \\ y = x + 1 \end{cases}$$

a. (1,2) b. (2,1) c. (-1,2) d. (1,-2)

3. Which inequality is equivalent to $6x - 2y \leq -4$

a. $y = 3x + 2$ b. $y \leq 3x + 2$ c. $y \geq 3x + 2$ d. $y \geq 3x - 2$

4. . The relationship below shows a direct variation.

x	y
4	16
5	20
6	24
7	28

Which equation best represents this relationship?

    a. $y = 5x - 4$

    b. $y = 1/4x$

    c. $y = x + 11$

    d. $y = 4x$

5.

Alex wrote these steps when solving an equation.	Choose from the properties below to answer the following questions about Alex's work:

Given: $-4(-3x + 2) + 6x = 10$

Step 1: $12x - 8 + 6x = 10$

Step 2: $12x + 6x - 8 = 10$

Step 3: $18x - 8 = 10$

                $+8 \quad +8$

Step 4: $\dfrac{18x}{18} = \dfrac{18}{18}$

Step 5: $x = 1$

Associative Property of Addition	Addition Property of Equality	Distributive Property
Division Property of Equality	Commutative Property of Addition	Transitive Property

1. Which property justifies the work between STEP 1 AND STEP 2?

2. STEP 3 AND STEP 4?

3. STEP 4 AND STESP 5?

6. Point A (-2, 2) lies on a line that represents a direct variation equation. Plot THREE other points on that line.
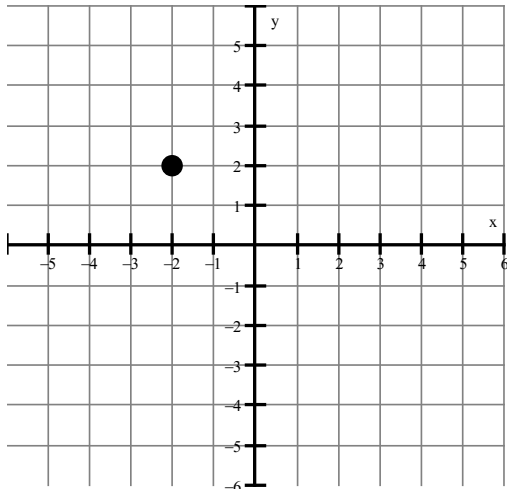
7. Choose the system of inequalities that best matches the graph.
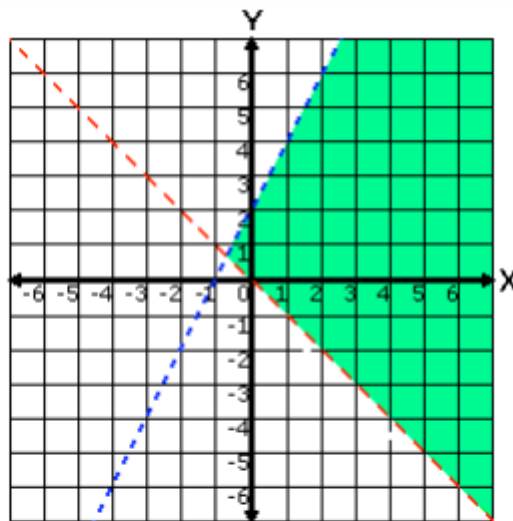
○ **A.** y < 2x + 2
      y < x

○ **B.** y < 2x
      y ≤ x

○ **C.** y ≤ x - 2
      y > -x

○ **D.** y < 2x + 2
      y > -x

8. Which equation best represents the line shown?

a. $-3X + 2Y = 2$ b. $-2X + 3Y = 2$

c. $-2X + 3Y = -3$ d. $-3X + 2Y = -3$

10. What are the x- and y-intercepts of the line

with the equation, $4x - 2y = -12$?

a. *x*-intercept -3, *y*-intercept 6

b. *x*-intercept 2, *y*-intercept 12

c. *x*-intercept -6, *y*-intercept 3

d. *x*-intercept 6, *y*-intercept -3

9. In which table of ordered pairs does

***n* vary directly as *m*?**

A:

m	*n*
⁻2	⁻1
⁻1	⁻2
1	2

B:

m	*n*
⁻2	4
⁻1	2
1	⁻2

C:

m	*n*
⁻2	⁻2.5
⁻1	⁻5.0
1	5.0

D:

m	*n*
⁻2	⁻2
⁻1	⁻4
1	4

11. What is the slope of the line that passes through the points (5, 2) and (1, 1)?

a. 4 b. $\dfrac{1}{4}$

c. -4 d. Undefined