

Days 1-4 Review

Name _____

Math 8 - Monomial Review

Part I.

Simplify.

1. $2x^5(7x)$

$14x^6$

2. $(6r^4s^2)(2r^2s)$

$12r^6s^3$

3. $1m(m^2)(1m^3)$

m^6

4. $2x^3y^3(5x^4)(3y^5)$

$30x^7y^8$

5. $(2y^3)(3y^2)$

$6y^5$

6. $d^4(d^6)$

d^{10}

7. $(5y^2)^3$

$125y^6$

8. $2(3a^2)^3$

$2 \cdot 27a^6$
 $54a^6$

9. $4x(2x^3)^3$

$4x \cdot 8x^9$
 $32x^{10}$

10. $3(a^3)^6$

$3a^{18}$

11. $(4x^2y^2)(3x^4y^5)^2$

$(4x^2y^2)(9x^8y^{10})$
 $36x^{10}y^{12}$

12. $(3b^4)^3$

$27b^{12}$

13. $(a^4)(a^5)(a^2)(a^3)$

a^{14}

14. $(7m^4n^2)(3m^4n)^2$

$7m^4n^2 \cdot 9m^8n^2$
 $63m^{12}n^4$

15. $2d^5(2d^3)^4$

$2d^5 \cdot 16d^{12}$
 $32d^{17}$

16. $3x^3y^4(4x^5)(6y)$

$72x^8y^5$

17. $a^2b^3c^4(2b^5c^8)(2a^4c^5)^4$

$32a^{18}b^8c^{32}$
 $32a^{18}b^8c^{32}$

18. $(3x^2)(x^4)^5$

$3x^2 \cdot x^{20}$
 $3x^{22}$

$$2x + 3x$$

19. $6x + 7x - 8y$

$$13x - 8y$$

20. $-8x^3 - 15x^5$

$$-8x^3 - 15x^5$$

21. $(x^5)(2x^4) + 10x^9$

$$2x^9 + 10x^9$$

$$12x^9$$

22. $(3ab)^3$

$$\frac{1}{27a^3b^3} \quad \frac{1}{(3ab)^3}$$

23. $(8a)(-9a^2)(a^{-3})$

$$-72$$

$$14 \cdot x^{-5}$$

24. $(1/5a^2) + (2/3a^2)$

$$\frac{3}{15}a^2 + \frac{10}{15}a^2$$

$$\frac{13}{15}a^2$$

25. $1/5x^3 - (2/7)x^3$

$$\frac{1}{5}x^3 - \frac{2}{7}x^3$$

$$\frac{7}{35}x^3 - \frac{10}{35}x^3$$

$$\frac{-3}{35}x^3$$

26. $14x^{-5}y^6z^{-3}$

$$\frac{14y^6}{x^5z^3}$$

27. $(-1/3)a^5b^{-7}$

$$\frac{-a^5}{3b^7} \quad \frac{1}{3}a^5b^{-7}$$

$$-\frac{1a^5}{3b^7}$$

28. Create a monomial problem that involves multiplication

whose answer is: $(-8x^3y^6)$.

$$2x^2y^2 \cdot -4x^2y^4$$

$$-2x^2y^4 \cdot 4xy^2$$

$$-2x^2y^5 \cdot 4xy$$

$$-4x^2y \cdot 2xy^6$$

29. Create a monomial problem that involves addition whose

answer is: $(-8x^3y^6)$.

$$2x^3y^6 + -10x^3y^6$$

$$-4x^3y^6 + -4x^3y^6$$

Part II

Choose the best answer for each question.

1. Which is equivalent to r^4s^8 ?

a. $(rs)^{12}$

b. $(r^4s^4)^2$

c. $(rs^2)^4$

d. $r^4 + s^4 + s^4$

2. What is the quotient of $\frac{26x^4y^2}{13xy}$ is

$2x^3y$

a. $2x^4y$

b. $13x^5y^3$

c. $2x^3y$

d. $13x^3y$

3. The sum of $6x^3y$ and $4x^3y$ is

a. $10x^3y$

b. $10x^6y^2$

c. $24x^3y$

d. $24x^3y$

4. Which is a true statement?

a. $\frac{z^6}{z^2} = z^3$

b. $\frac{z^3}{z^5} = \frac{1}{z^2}$

c. $\frac{z}{z^3} = z^{-3}$
 $z^1 \cdot z^{-3}$
 z^{-2}

d. $\frac{z^2}{z^6} = z^4$

5. The product of $-3xy^2$ and $5x^2y^3$ is

$$\begin{aligned} &(-3xy^2)(5x^2y^3) \\ &= -15x^3y^5 \end{aligned}$$

a. $-8x^3y^5$

b. $-15x^3y^5$

c. $-15x^2y^5$

d. $-15x^3y^6$

6. Subtract:

$$5xy^2 - 11xy^2$$

a. 6

b. $6xy^2$

c. $-6xy$

d. $-6xy^2$

7. Which is not equivalent to n^4 ?

a. $n^2 \cdot n^2$

b. $(n^2)^2$

c. $\frac{n^4}{n}$

d. $\frac{n^3 n^5}{n^4}$

8. Are -5^2 and $(-5)^2$ equivalent expressions? Explain your answer.

No, $(-5)^2 = 25$

$-5^2 = -25$

The negative is NOT being squared

9. Find the value of x that makes each statement true.

a. $r^x \cdot r^2 = r^6$

$x = 4$

b. $\frac{r^6}{r^x} = r^3$

$x = 3$

c. $r^x \cdot r^2 = 1$

$x = -2$

d. $(r^x)^2 = r^8$

$x = 4$

10. Perform the indicated operation.

a. $3b(2b^2)$

$6b^3$

b. $8c^5 - 4c^5$

$4c^5$

c. $\frac{15a^2}{3a}$

$5a$

d. $(2m^3)^3$

$8m^9$

e. $7x^3y^2 + 5x^3y^2$

$12x^3y^2$

f. $-2p^4q^2(6pq)$

$-12p^5q^3$

g. $8y^6z^4 - 12y^6z^4$

$-4y^6z^4$

h. $\frac{f^2g^3}{f^2g^2}$

g

i. $2x - 9x + 4x$

$-3x$

j. $3d^4e^2(-9d)$

$-27d^5e^2$

k. $\frac{21x^5y}{3x^3y^3}$

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

l. $(3pq)(4qr)(-2pr)$

$-24p^2q^2r^2$