

Name _____ Period _____

Intermediate 2 Unit 4 Review

1) What is a rational number?

Write each fraction or mixed number as a decimal.

2) $\frac{7}{12}$

3) $-\frac{3}{80}$

4) $7\frac{1}{15}$

Write each decimal as a fraction.

5) .843

6) -8.16

7) $0.\overline{32}$

8) $-\overline{.069}$

9) When Juliana went strawberry picking and picked 54 strawberries. She ate 28 of them. Write a fraction and a decimal that represent the number of strawberries she ate. Round the decimal to the nearest thousandth place.

Evaluate each expression.

10. 3^5

11. -10^4

12. -2^5

13. $\left(\frac{1}{3}\right)^3$

Simplify.

14. $x \cdot x^2 \cdot x^3$

15. $2x^2 \cdot 3x$

16. $(4uv)(-u)(2u^4 v)$

17. $(-3a^2 c)(-3b^2 c)$

18. $\frac{8a^8 b^3}{24ab^2}$

19. $\frac{3^4 a^8 b^3}{3a^5 b}$

20. $\frac{4^6 \cdot (-5)^8 \cdot 8^3}{4 \cdot (-5)^5 \cdot 8^7}$

21. $\frac{21m^8 n^7}{14m^5 n^7}$

Simplify.

22. $(x^4)^3$ 23. $(-7n^3)^2$ 24. $(-6x^3y^4)^5$ 25. $(-3md^9)^4$ 26. $x^8y^3(10x^5y^4)^2$

27. $(xy^4)^4(-9y^3)$ 28. $(8ut^3)^2(u^2t)^2$ 29. $(\frac{1}{2}k^8v^3)^2(60kv^4)$ 30. $(\frac{2}{5}d)^3$

Write your answers in exponential form.

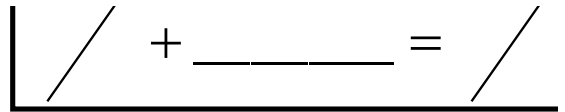
31. $(8^7)^6$ 32. $[(2^3)^2]^3$ 33. $(5ab^2)^6(8a^2b^4)^3$ 34. $[(3a^3b^4)^2]^5$

35. $2(a^3)^3(6a^2)^4$ 36. $(-ab)(-b^2c^2)(-a^2b^2)$

37. $\frac{a^{-11}}{a^{-8}}$ 38. $\frac{x^{-2}y^7}{x^9y^{-13}}$ 39. $\frac{25a^{11}b^{-7}}{15a^{-5}b^8}$ 40. $11^{-9} \cdot 11^{-5}$ 41. $7^6 \cdot 7^{-2}$

42. $\frac{7^{-13}}{7^6}$ 43. $\frac{14a^{-6}b^5}{26a^4b^2}$ 44. $\frac{-36x^{-3}y^8z^2}{45xy^{-6}z^8}$ 45. $\left(\frac{x^2y^4}{x^4}\right)^3$ 46. $\frac{16x^0y^2}{2x^3y^3}$

Name _____ Period _____



Intermediate 2 Unit 4 Review

1) What is a rational number?

_____ Ex. **Any number that can be written as a fraction** _____

_____ Ex. **Any number that can be made by dividing one integer by another.** _____

Write each fraction or mixed number as a decimal.

2) $\frac{7}{12}$
.58 $\overline{3}$

3) $-\frac{3}{80}$
-.0375

4) $7\frac{1}{15}$
7.0 $\overline{6}$

Write each decimal as a fraction.

5) .843
 $\frac{843}{1000}$

6) -8.16
 $-8\frac{4}{25}$

7) $0.\overline{32}$
 $\frac{32}{99}$

8) $-\overline{.069}$
 $-\frac{23}{333}$

9) When Juliana went strawberry picking and picked 54 strawberries. She ate 28 of them. Write a fraction and a decimal that represent the number of strawberries she ate. Round the decimal to the nearest thousandth place. **0.519**

Evaluate each expression.

10. 3^5

243

11. -10^4

-10,000

12. -2^5

-32

13. $\left(\frac{1}{3}\right)^3$

$\frac{1}{27}$

Simplify.

14. $x \cdot x^2 \cdot x^3$

x^6

15. $2x^2 \cdot 3x$

$6x^3$

16. $(4uv)(-u)(2u^4v)$

$-8u^6v^2$

17. $(-3a^2c)(-3b^2c)$

$9a^2b^2c^2$

18. $\frac{8a^8b^3}{24ab^2}$

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

19. $\frac{3^4a^8b^3}{3a^5b}$

$3^3a^3b^2$ or $27a^3b^2$

20. $\frac{4^6 \cdot (-5)^8 \cdot 8^3}{4 \cdot (-5)^5 \cdot 8^7}$

$\frac{4^5 \cdot (-5)^3}{8^4}$

21. $\frac{21m^8n^7}{14m^5n^7}$

$\frac{3m^3}{2}$

Simplify.

22. $(x^4)^3$

x^{12}

23. $(-7n^3)^2$

$49n^6$

24. $(-6x^3y^4)^5$

$-6^5x^{15}y^{20}$

25. $(-3md^9)^4$

$81m^4d^{36}$

26. $x^8y^3(10x^5y^4)^2$

$100x^{18}y^{11}$

27. $(xy^4)^4(-9y^3)$

$-9x^4y^{19}$

28. $(8ut^3)^2(u^2t)^2$

$64u^6t^8$

29. $(\frac{1}{2}k^8v^3)^2(60kv^4)$

$15k^{17}v^{10}$

30. $(\frac{2}{5}d)^3$

$\frac{8}{125}d^3$

Write your answers in exponential form.

31. $(8^7)^6$

8^{42}

32. $[(2^3)^2]^3$

2^{18}

33. $(5ab^2)^6(8a^2b^4)^3$

$5^68^3a^{12}b^{24}$

34. $[(3a^3b^4)^2]^5$

$3^{10}a^{30}b^{40}$

35. $2(a^3)^3(6a^2)^4$

36. $(-ab)(-b^2c^2)(-a^2b^2)$

$-a^3b^5c^2$

37. $\frac{a^{-11}}{a^{-8}}$

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

38. $\frac{x^{-2}y^7}{x^9y^{-13}}$

$\frac{y^{20}}{x^{11}}$

39. $\frac{25a^{11}b^{-7}}{15a^{-5}b^8}$

$\frac{5a^{16}}{3b^{15}}$

40. $11^{-9} \cdot 11^{-5}$

$\frac{1}{11^{14}}$

41. $7^6 \cdot 7^{-2}$

7^4

42. $\frac{7^{-13}}{7^6}$

$\frac{1}{7^{19}}$

43. $\frac{14a^{-6}b^5}{26a^4b^2}$

$\frac{7b^3}{13a^{10}}$

44. $\frac{-36x^{-3}y^8z^2}{45xy^{-6}z^8}$

$-\frac{4y^{14}}{5x^4z^6}$

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

$\frac{y^{12}}{x^6}$

46. $\frac{16x^0y^2}{2x^3y^3}$

$\frac{8}{x^3y^1}$