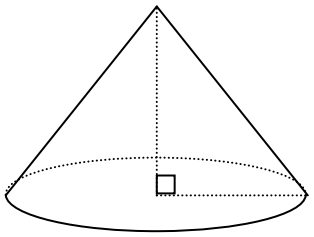
Chapter 7 Test review: January 2013

- ***Review for Chapter 7 is due on the day of the test. REMEMBER: NO WORK, NO CREDIT***
- ***Review will not be graded unless answers are written on separate paper.***
- ***Eligibility to retest: complete accurate review, all homework and missing assignments must be turned in <u>prior</u> to retesting. Tutoring is required***

1. If $a = b^2$ then b^{10} is equal to *a* to what power?
2. Evaluate $a^0 b^{-2}$ for $a = 2$ and $b = -2$.
3. Simplify 2^{-3}.
4. Simplify $(-4)^0$.
5. Simplify $\dfrac{9x^0 y^{-8}}{z^{-8}}$.
6. Simplify $(x^5)^{-8} x^4$.
7. Simplify $\left(\dfrac{2m^8}{m^2 n^4}\right)^4$.
8. Simplify $(m^2 n^{-3})^2 (-m^{-3} n^3)^3$.
9. Simplify $\dfrac{y^6 z^{12}}{(yz)^3}$.
10. The edge of a cube measures 2.2×10^{-6} m. What is the volume of the cube in cubic centimeters?
11. The area of Australia/Oceania is approximately 7.69×10^6 square kilometers. Its population is approximately 3.11×10^7 people. What is the approximate population density (people per square kilometer) of Australia/Oceania? Write your answer in standard form. If necessary, round your answer to the nearest hundredth.
12. The volume of the cone is $V = 8\pi x^2 y^5$. The height is *h* and the radius of the base is $2y^2$. Write and simplify an expression for the cone's height. *(hint: refer to formula project for formula for a cone. Did not keep your project????? Look formula up in the back of your textbook!)*



13. Find the degree of the monomial $-5a^7 b^4$.
14. Write the polynomial $3x^2 - 8x - 12x^5 - 5x^3 + 2x^4 - 6$ in standard form. Then give the leading coefficient and the degree of the polynomial.
15. A toy rocket is launched from a platform 34 feet above the ground at a speed of 90 feet per second. The height of the rocket in feet is given by the polynomial $-16t^2 + 90t + 34$, where *t* is the time in seconds. How high will the rocket be after 3 seconds?
16. Simplify: $-10m + 2m^4 - 13m - 20m^4$
17. Subtract.: $(8b^4 - b^3) - (b^4 + 4b^3 - 4)$
18. The legs of an isosceles triangle measure $2x^4 + 2x - 1$ units. The perimeter of the triangle is $5x^4 - 2x^3 + x - 3$ units. Write a polynomial that represents the measure of the base of the triangle.

Multiply:

19. $(\frac{2}{3}p^4 y^3)(y^4 s^5)(6p^2 s^3)$
20. $(n-5)(n-1)$
21. $(5x-3)(x^3 - 5x + 2)$
22. $(p-8)^2$
23. $(r+7)(r-7)$

Simplify the expression.

24. $7a^{-5}b^{3}$

25. $\dfrac{12}{c^{-8}d^{2}}$

26. $-4x^{3}\cdot 2y^{-2}\cdot 5y^{5}\cdot x^{-8}$

27. $(t^{-2})^{6}$

28. $(x^{9})^{0}(x^{7})^{2}$

29. $(3xy^{3})^{2}(xy)^{6}$

30. $\left(\dfrac{m^{-1}m^{5}}{m^{-2}}\right)^{-3}$

Classify the polynomial according to its degree and number of terms:

31. $2s-6$

32. $3n^{2}$

33. $-m^{4}-m^{2}-1$

34. $8-2r^{3}+r^{5}$

35. $6x^{3}+4x^{2}-8x-2$

Chapters 1 – 6 Spiral Exam:

- graph a linear equation and graph a linear inequality
- translate a linear equations
- describe the transformations that occur between f (x) and g(x)
- understand the relationship between the dependent and independent variables
- recognize the linear parent function equation and graph
- interpret and draw conclusions about linear graphs
- write an equation for a linear function from a table of values
- understand the difference between an expression and an equation – can you solve an expression?????? (no)
- chapter 1 and 2: simplify expressions and equations using basic order of operation and solve for a variable

Chapter 7 Test review

1. ANS: $a^5 = (b^2)^5 = b^{10}$
2. ANS: $\frac{1}{4}$
3. ANS: $\frac{1}{8}$
4. ANS: 1
5. ANS: $\frac{9z^8}{y^8}$
6. ANS: $\frac{1}{x^{36}}$
7. ANS: $\frac{16m^{24}}{n^{16}}$
8. ANS: $-\frac{n^3}{m^5}$
9. ANS: y^3z^9
10. ANS: 1.0648×10^{-11} cm^3
11. ANS: 4.04 people/km^2
12. ANS: $\frac{8\pi x^2 y^5}{\frac{4}{3}\pi y^4} = 6x^2y$
13. ANS: 11
14. ANS: $-12x^5 + 2x^4 - 5x^3 + 3x^2 - 8x - 6$
    The leading coefficient is –12 and it is a 5^{th} degree polynomial.
15. ANS: 160 feet
16. ANS: $-23m - 18m^4$
17. ANS: $7b^4 - 5b^3 + 4$
18. ANS: $x^4 - 2x^3 - 3x - 1$
19. ANS: $4p^6y^7s^8$
20. ANS: $n^2 - 6n + 5$
21. ANS: $5x^4 - 3x^3 - 25x^2 + 25x - 6$
22. ANS: $p^2 - 16p + 64$
23. ANS: $r^2 - 49$
24. ANS: $\frac{7b^3}{a^5}$
25. ANS: $\frac{12c^8}{d^2}$
26. ANS: $-\frac{40y^3}{x^5}$
27. ANS: $\frac{1}{t^{12}}$
28. ANS: x^{14}
29. ANS: $9x^8y^{12}$
30. ANS: $\frac{1}{m^{18}}$
31. linear binomial
32. quadratic monomial
33. quartic trinomial
34. quintic trinomial
35. cubic polynomial