

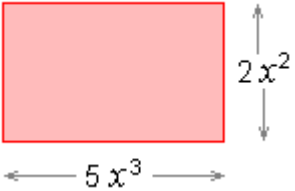
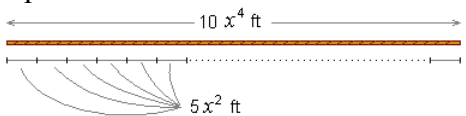
4.2 Exponent Laws

Name _____

Evaluate each expression	
1. $(1.3)^2$	2. $(1.4)^2$
3. $(-5)^2$	4. $(-7)^2$
5. -5^2	6. -7^2
7. For $x = 2$, $3x^4 =$	8. For $y = 5$, $3y^2 =$
9. For $x = -2$, $3x^4 =$	10. For $y = -5$, $3y^2 =$
11. For $x = 2$, and $y = -1$ $x^2y =$	12. For $x = 3$, and $y = -1$ $x^2y =$
13. For $x = 3$, and $y = 2$ $-x^2y^3 =$	14. For $x = 5$, and $y = 2$ $-x^2y^3 =$
Answers: 1. 1.69; 3. 25; 5. -25; 7. 48; 9. 48; 11. -4 13. -72	

Simplify.	
15. $x^2 \cdot x^5$	16. $y^4 \cdot y^3$
17. $(-5x^2)(-3x^5)$	18. $(-4y^3)(-2y^7)$
19. $(2x^2y^3)(3x^4y)$	20. $(4a^2b^5)(5ab^2)$
21. $\frac{x^5}{x^2}$	22. $\frac{y^8}{y^3}$
23. $\frac{x^3}{x^7}$	24. $\frac{y}{y^4}$
Answers: 15. x^7 ; 17. $15x^7$; 19. $6x^6y^4$; 21. x^3 ; 23. $\frac{1}{x^4}$	

Simplify	
25. $\frac{-2a^7}{6a^3}$	26. $\frac{2y^7}{-8y^8}$
27. $\frac{15a^4b}{10ab^2}$	28. $\frac{12x^5y^4}{8x^6y}$
29. $\left(\frac{a}{2}\right)^3$	30. $\left(\frac{x}{2}\right)^4$
31. $(x^4)^5$	32. $(y^5)^3$
33. $(3xy)^4$	34. $(2ab)^5$
35. $(-3x^4)^2$	36. $(-5y^6)^2$
Answers: 25. $-\frac{a^4}{3}$; 27. $\frac{3a^3}{2b}$; 29. $\frac{a^3}{8}$; 31. x^{20} ; 33. $81x^4y^4$; 35. $9x^8$	

Simplify	
37. $(3ab^2)(2a^2b^3)^4$	38. $(2xy^4)(5x^3y^4)^2$
39. $\frac{(2xy^3)^4}{8x^4y}$	40. $\frac{(3ab^3)^2}{3ab^6}$
41. 2^0	42. 5^0
43. $(x^4)^0$	44. $(y^5)^0$
45. $x^0 - 3^0$	46. $y^0 + 4^0$
<p>47. Find and simplify an expression for the area of the rectangle below.</p> 	<p>48. A piece of rope $10x^4$ feet long is divided into equal length sections that are each $5x^2$ feet long. Find and simplify an expression for the number of sections of rope obtained.</p> 
Answers: 37. $48a^9b^{14}$; 39. $2y^{11}$; 41. 1; 43. 1; 45. 0; 47. $10x^5$	