Pg 426-427 #1-10, 12, 13, 15-17, 22-24, 29, & 30

1. To divide powers means to divide out the common factors of the numerator and denominator. To divide powers with the same base, write the power with the common base and an exponent found by subtracting the exponent in the denominator from the exponent in the numerator.

2. $\frac{(-4)^8}{(-3)^4}$; The other quotients have powers with the same base.

3. 6^6

4. 8^2

5. $(-3)^3$

6. 4.5^2

7. 5^6

8. 64

9. $(-17)^3$

10. $(-7.9)^6$

12. π^4

13. b^{13}

15. You should subtract the exponents instead of dividing them.

$$\frac{6^{15}}{6^5} = 6^{15-5}$$
$$= 6^{10}$$

16. 7^6

17. 2^9

22. 10^8 times

23. $64x$

24. $6w$

29. See *Taking Math Deeper.*

30. **a.** *Sample answer:* $m = 5$, $n = 3$

b. infinitely many solutions; Any two numbers that satisfy the equation $m - n = 2$ are solutions.