10.1 Exponents

7. $\pi^3 x^4$ 8. $(-4)^3 y^2$

9. $6.4^4 b^3$ 10. $(-t)^5$

11. 25 12. $-1^1 11^3$ $-11^3 = -1331$

$$\begin{array}{r} 11 \\ \cdot\ 11 \\ \hline 11 \\ +116 \\ \hline 121 \\ \cdot\ 11 \\ \hline 121 \\ 1210 \\ \hline -1331 \end{array}$$

13. 1 14. $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{64}$

$\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$

$\frac{1}{16} \cdot \frac{1}{4}$

$\frac{1}{64}$

$$\begin{array}{r} {}^{2}16 \\ \cdot\ 4 \\ \hline 64 \end{array}$$

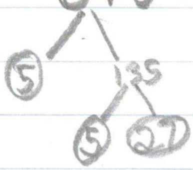
15. $\frac{1}{144}$ 16. $-\frac{1}{729}$

17. The error is that -6^2 shouldn't be equal, but $(-6)^2$ should. Because when you evalute -6^2, it's -36, not 36. Meaning, it is equal to the following equation

$$-6^2 \neq (-6) \cdot (-6) = 36$$

10.1 Exponents

18. $5^2\ 27^1$ 675



$5\overline{)675}$ 135

20. Largest doll 12 inches. The following doll ~~do~~ is always $\frac{7}{10}$ of the bigger doll

1st doll = 12 inches   2nd doll = $12 \cdot \frac{7}{10}$

3rd = $12 \cdot \frac{7}{10}^2$ 4th = $12 \cdot \frac{7}{10}^3$

Last doll = n

height of last doll = $12 \cdot \frac{7}{10}^{n-1}$

21. 29   22. 65

23. $(13^2 - 12^2) \div 5$

$(169 - 144) \div 5$

$25 \div 5$

. 5

10.1 Exponents

24. $\frac{1}{2}(4^3 - 6 \cdot 3^2)$

$\frac{1}{2}(64 - 6 \cdot 9)$

$\frac{1}{2}(64 - 54)$

$\frac{1}{2}(10)$

5

25. $\left|\frac{1}{2}(7 + 5^3)\right|$

$\left|\frac{1}{2}(7 + 125)\right|$

$\left|\frac{1}{2}(132)\right|$

66

26 $\left|\left(-\frac{1}{2}\right)^3 \div \left(\frac{1}{4}\right)^2\right|$

$\left|\left(-\frac{1}{8}\right) \div \left(\frac{1}{16}\right)\right|$

2

27.

n	1	2	3	4	5
2^n-1	1	3	7	15	31
2^{n-1}	0	2	4	8	16

I would chose 2^n-1, because I would only have to subtract one, not lose an exponent. Exponents would multiply a lot of money earned.