Exponents Review Sheet

Compute the values of the following expressions. Leave answers as fractions if needed. No calculators!

1) $3^5 =$

2) $2^8 =$

3) $5^3 =$

4) $5^{-3} =$

5) $\left(\frac{1}{3}\right)^{-2} =$

6) $\left(2\frac{1}{2}\right)^{-3} =$

7) $64^{\frac{1}{2}} =$

8) $27^{-\frac{1}{3}} =$

9) $\left(\frac{1}{8000}\right)^{\frac{1}{3}} =$

10) $\left(\frac{4}{25}\right)^{-\frac{3}{2}} =$

Use the Laws of Exponents to simplify each expression as much as possible.
Answers should not contain any negative exponents.

11) $x^5 \cdot x^3 =$

12) $y^4 \cdot y^5 \cdot y^6 =$

13) $m^6 \cdot m^{-9} =$

14) $n^2 \cdot n^5 \div n^4 =$

15) $\frac{z^3}{z^5} =$

16) $\frac{a^3}{a^{-6}} =$

17) $\left(x^4\right)^3 =$

18) $\left(y^2\right)^7 =$

19) $\left(g^2\right)^3{}^4 =$

20) $(xyz)^5 =$

21) $\left(a^2b^3c^4\right)^5 =$

22) $(p+q+r)^2 =$

23) $\left(\frac{x}{y}\right)^{-4} =$

24) $\left(\frac{fg}{h^2}\right)^x =$

25) $\left(\frac{ab^2c^{-3}}{a^3\ bc^2}^{-2}\right)^{-5} =$

26) $\left(a\ \ a\ \ a^2{}^3{}^4\right)^5 =$

27) $\left(\frac{x^3y^{-4}}{x^2yz}\right)^2 \div \left(\left(\frac{xy}{xyz^3}^4\right)^4\right)^{\frac{1}{2}} =$

28) $5^x \cdot 4^y{}^z \cdot\ 4^z \cdot 5^y{}^{-x} =$