Exponents and Radicals Worksheet

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Simplify the following expressions. Write your answers in standard form.

1. $2^2 =$
2. $3^3 =$
3. $4^2 \cdot 4^3 =$
4. $5^{2+3} =$
5. $(6^2)^3 =$
6. $2^4 \div 2^2 =$
7. $7^{4-2} =$
8. $(3^2)^3 =$
9. $8^2 \cdot 8^2 =$
10. $2^5 \div 2^3 =$
11. $4^{3+2} =$
12. $(2^2)^4 =$
13. $3^4 \cdot 3^2 =$
14. $5^4 \div 5^2 =$
15. $(5^2)^3 =$
16. $2^3 \cdot 2^4 \cdot 2^5 =$
17. $10^4 \div 10^2 \div 10^1 =$
18. $(2^3)^4 =$
19. $2^4 \cdot 2^4 \cdot 2^4 \cdot 2^4 =$
20. $(3^2 \cdot 3^2)^3 =$

Simplify the following expressions.

1. $\sqrt[3]{8} =$
2. $\sqrt{16} =$
3. $\sqrt[3]{64} =$
4. $\sqrt[5]{32} =$
5. $\sqrt[4]{81} =$
6. $\sqrt{49} \times \sqrt[3]{8} =$
7. $\sqrt[3]{\frac{27}{8}} =$
8. $\sqrt[4]{256} =$
9. $\sqrt[3]{125} =$
10. $\sqrt[5]{256} \times \sqrt[5]{4} =$
11. $\sqrt{25} \times \sqrt[4]{16} =$
12. $\sqrt[4]{625} =$
13. $\sqrt[3]{343} =$
14. $2\sqrt[4]{256} =$
15. $\sqrt{36} \times \sqrt[3]{125} \div \sqrt{6} =$
16. $\sqrt[5]{1024} \times \sqrt[5]{2} =$
17. $\sqrt[4]{\frac{625}{16}} =$
18. $\sqrt[3]{512} \div \sqrt[3]{8} =$
19. $\sqrt[5]{3125} =$
20. $\frac{\sqrt[4]{243}}{\sqrt[4]{3}} =$