

Section 1.2 – Exponents and the Order of Operations

Problem Set 2

Evaluate the following exponential expressions.

1. 2^3

2. 3^2

3. $(-1)^4$

4. 4.1^2

5. $(1.1)^3$

6. -3^3

7. $-5^2 / (-5)^2$

8. $4^2 \cdot 4^3$

9. $5 \cdot 2^2$

10. $\frac{-2^2}{4^2}$

11. $\left(-\frac{1}{3}\right)^3$

12. $\left(\frac{4^2 + 3}{2^2}\right)^2$

Simplify the following expressions.

13. $4^3 - 4^2$

14. $1 - 2 \cdot 2$

15. $(5 - 2)^2$

16. $(5 - 5) / 52$

17. $1^2 + 3(4 - 4 / 15)$

18. $-4^2 / 4$

19. $2[1 - 3(3^4 - 2^4)]$

20. $2(2 - 3^2) + 3(2 + 1)$

21. $3\{6 - (2^2 + -1^4)\} / 2$

22. $27 / 3 \cdot 3$

23. $(-4)^2 - 4^3$

24. $(4 - 4)^6 + (1 - 4)^2$

25. $\frac{-2(1^2 - 2)}{2^2(2^3 - 2^4)}$

26. $\frac{2^2 + 1}{2^2 - 1}$

27. $6 \cdot (1 - 2^3 - 1) \div 4 - 2[1^2 + 1]$

28. $\{2^2 + (18 / 3 \cdot 6)^2\} - 4$

Calculate the following values.

29. Calculate the area of a square whose sides are all 8 ft.

30. Calculate the area of a rectangle whose sides are 1 in. by 9 in.

31. If a book is 8" long and 12" tall, what's the area of the smallest box that it will fit in?

32. Calculate the area of a rectangle whose sides are 3 cm by 3.1 cm.

33. A window is made up of 16 panes of glass. Each pane is 12" x 8". What's the total area of the glass required to fill the window?