

Section 1.2 – Exponents and the Order of Operations

Problem Set 1

Evaluate the following exponential expressions.

1. 7^2

2. 4^3

3. 2^5

4. $(.3)^3$

5. -2^4

6. 4.1^2

7. $7^2 \cdot 3^2 / 21$

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

9. $-3^2 \cdot (-2)^2$

10. $\left(\frac{6^2 + 2}{4 - 2}\right)^2$

11. $\left(\frac{1}{4}\right)^3$

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

Simplify the following expressions.

13. $3^2 - 4^2$

14. $(4 - 1) / 3$

15. $4 - 1 \cdot 7$

16. $(5 - 1)^2$

17. -3^2

18. $-2 [1 - 4 (3^3 - 2^2)]$

19. $18 / 3 \cdot 2$

20. $3^2 + 3 (4 - 4 / 2)$

21. $1^2 (3^2 + 2^2) - 2 (3 - 1)$

22. $(8 - 1)^2 + (1 - 8)^2$

23. $\frac{3^1}{3^3}$

24. $\{(-1)^2 + (4 / 2 \cdot 2)\} + 10 / 5$

25. $[14 + (1 - 5)^3] + 6 / 2$

26. $3 \cdot (3 + 3^3 - 3) \div 3 - 2 [2^2 + 1]$

27. $(6 - 2)^3 + (6 - 1)^2$

28. $\frac{-4(1^3 - 1^2)}{-2(4^2 - 2 \cdot 16)}$

Calculate the following values.

29. Calculate the area of a rectangle whose sides are 15 cm by 8 cm.

30. Calculate the area of a rectangle whose sides are 5 in. by 7 in.

31. Calculate the area of a square whose sides are all 2.1 ft.

32. If a field is 3.1 miles by 7 miles, how much area does it cover?

33. The sides of a room are 8' x 8' and 10' x 8'. What's the total surface area of the room's walls?