Problems on order of operations and scientific notation (unit 2.4)

1. The expression $\dfrac{2-12\div 2}{-(-2)^2}$ is equal to

(A) $-\dfrac{5}{4}$

(B) -1

(C) -0.5

(D) 1

(E) $\dfrac{5}{4}$

2. The expression $5-2^2+3(1+2)^2$ is equal to:

(A) 10

(B) 28

(C) 30

(D) 36

(E) 145

3. The expression $\dfrac{-4}{2}-(-2)^3+1$ is equal to:

(A) -9

(B) -7

(C) -5

(D) 7

(E) 11

4. The expression $3^2+\dfrac{2^3+1}{(1-2)^3}$ is equal to:

(A) -18

(B) -9

(C) 0

(D) 9

(E) 18

5. The expression $\dfrac{8+(6-3)^2}{2^2-3^2-12}$ is **closest** to:

(A) -2

(B) -1

(C) 0

(D) 1

(E) 2

6. The expression $\dfrac{(3x)^3-x^3}{x^3}$ is equal to:

(A) 0

(B) 2

(C) 8

(D) 26

(E) 27

7. The expression $-x^2-(-2x)^2-x+(-3)^3$ is equivalent to:

(A) $3x^2-x+9$

(B) $3x^2-x-27$

(C) $7x^2-x+-27$

(D) $-6x^2-27$

(E) $-5x^2-x-27$

8. <u>Extra Credit:</u> The expression $\dfrac{(x^2)^2+2x^2-6x\div 2x}{x\cdot x\cdot x-x\cdot x+x+x+x-3}$ is equivalent to:

(A) $x+1$

(B) x^2+3

(C) $x-1$

(D) x^2-3

(E) None of the above.

9. When expressed in scientific notation 150,000 is:

(A) 1.5×10^{-5}

(B) 1.5×10^{5}

(C) 0.15×10^{-5}

(D) 15×10^{4}

(E) 0.15×10^{6}

10. When expressed in scientific notation 0.000506 is:

(A) 506×10^{-3}

(B) 506×10^{3}

(C) 5.06×10^{4}

(D) 5.06×10^{-4}

(E) 50.6×10^{-5}

11. What is the product of 1,350,000 and 2,300,000?

(A) 3.105×10^{12}

(B) 3.105×10^{-12}

(C) 3.65×10^{5}

(D) 3.65×10^{-5}

(E) 27/46

12. When expressed in decimal, 6.2×10^{9} is

(A) 0.0000000062

(B) 0.00000000062

(C) 6,200,000,000

(D) 6.2000000000

(E) 6,200,000

13. When expressed in decimal, 3.2×10^{-8} is

(A) 32,000,000

(B) 0.0000000032

(C) 32.000000

(D) .000000032

(E) 328

14. What is the product of 5,330,000 and 0.22×10^{-10}?

(A) 11.726

(B) 1,172,600

(C) 1.1726×10^{-4}

(D) 1.1726×10^{-5}

(E) 1.1726×10^{-6}

15. Simplify $\left(1.2 \times 10^{-3}\right) \div \left(3.2 \times 10^{2}\right)$

(A) 0.0375

(B) 0.375

(C) 3.75×10^{-4}

(D) 3.75×10^{-5}

(E) 3.75×10^{-6}

16. The quantity $(9.1 \times 10^{10})^{5}$ is equivalent to:

(A) 6.24

(B) 62,403

(C) 6.24×10^{46}

(D) 6.24×10^{50}

(E) 6.24×10^{54}