

## Multiple Choice review of basic algebra concepts

- What is the correct factorization of  $x^2 - 4$ ?
  - $x(x - 4)$
  - $(x - 2)^2$
  - $(x - 2)(x + 2)$
  - $(x + 4)^2$
  - $x^2(1 - 2)$
- If  $a$  and  $b$  are real numbers, which of the following statements is true?
  - $a(b + c) = ab + c$
  - $a(b + c) = a + bc$
  - $a(b + c) = ab + ac$
  - $a(b + c) = ab - ac$
  - $a(b + c) = ac + b$
- If  $x = 2$  and  $y = 3$ , what is the value of  $2x^2 - 3y$ ?
  - 7
  - 1
  - 1
  - 5
  - 5
- What is the solution to the equation  $2x - 3 = 5$ ?
  - $x = 4$
  - $x = 1$
  - $x = 2$
  - $x = 4/2$
  - $x = 3/2$
- What is the value of  $\frac{2}{3} + \frac{1}{2}$ ?
  - $\frac{1}{2}$
  - $\frac{7}{6}$
  - $\frac{5}{6}$
  - $\frac{4}{3}$
  - $\frac{8}{6}$
- What do you get when simplifying the fraction  $\frac{2x^2 - 8x}{2x}$ ?
  - $x - 4$
  - $x - 8$

- C.  $2x - 8$   
 D.  $x^2 - 4x$   
 E.  $2x^2 - 8$
7. If  $x = \frac{1}{2}$ , what is the value of  $2x^2 + 3x - 2$ ?  
 A.  $\frac{1}{2}$   
 B. 0  
 C.  $-\frac{1}{2}$   
 D. 1  
 E.  $\frac{1}{4}$
8. How does this expression simplify?  $\frac{15x^3 + 30x^2 + 10}{15}$   
 A.  $x^3 + 2x^2 + \frac{3}{2}$   
 B.  $x^3 + x^2 + \frac{2}{3}$   
 C.  $2x^3 + x^2 + \frac{2}{3}$   
 D.  $x^3 + 2x^2 + \frac{1}{3}$   
 E.  $x^3 + 2x^2 + \frac{2}{3}$
9. If  $e^{(x+1)} = e^{(2x)}$ , what is the value of  $x$ ?  
 A.  $x = 1$   
 B.  $x = 2$   
 C.  $x = 0$   
 D.  $x = -1$   
 E.  $x = -2$
10. This expression  $\frac{x}{y} + \frac{w}{z}$  is equal to:  
 A.  $\frac{xw + yz}{zy}$   
 B.  $\frac{xz + yw}{zx}$   
 C.  $\frac{xw + yz}{zx}$   
 D.  $\frac{xz + yw}{yz}$   
 E.  $\frac{xz + yw}{yw}$
11. This expression  $\frac{w+4}{3+z}$  is equal to:  
 A.  $\frac{w+4}{3} + \frac{w+4}{z}$   
 B.  $\frac{w}{3+z} + \frac{4}{3+z}$   
 C.  $\frac{w}{3} + \frac{4}{z}$

D.  $\frac{w}{z} + \frac{4}{3}$

12. The following expression  $x^2x^4$  is equal to:

A.  $x^6$

B.  $x^8$

C.  $x^{16}$

D.  $x^{32}$

E.  $x^2$

13. The following expression  $2x^{-1}$  is equal to:

A.  $\frac{2}{x^{-1}}$

B.  $\frac{1}{2x}$

C.  $\frac{2}{x}$

D.  $2x$

E. None of the above

14. The following expression  $(x^2)^3$  is equal to:

A.  $x^5$

B.  $x^6$

C.  $x^8$

D.  $x^9$

E.  $x^{-1}$

## Soluciones

1. C
2. C
3. C
4. A
5. B
6. A
7. B
8. E
9. A
10. D
11. B
12. A
13. C
14. B