Practice Placement Test Version Five

1. $|-61\,w\,z| =$

    a) $-61\,|w|\,|z|$ and $61\,|w|\,|z|$

    b) $3721\,w\,z$

    c) $-61\,|w|\,|z|$

    d) $61\,|w|\,|z|$

    e) 0 and $61\,|w|\,|z|$

2. $\dfrac{a}{5b} - \dfrac{a}{2b} =$

    a) $-490\,b$

    b) $-\dfrac{21}{b}$

    c) $21\,b$

    d) $\dfrac{21}{b}$

    e) $\dfrac{21}{b^2}$

3. $(-473) + 4(1867) =$

    a) 6539

    b) 1394

c) 7022

d) 6995

e) 2766

4. If $0.07\,x = 49$ then

a) $x = 7$

b) $x = 0.07$

c) $x = 48.93$

d) $x = 0.49$

e) $x = 700$

5. $-4\,(p+4) - 4\,p - 4\,(q+2) =$

a) $-8\,p - 4\,q + 6$

b) $-3\,p + q - 2$

c) $-4\,p - 4\,q - 8$

d) $-8\,p - 4\,q - 24$

e) $-8\,p - 4\,q + 8$

6. $5\,(p-q) - 8\,p + 8\,q =$

a) $7\,q - 3\,p$

b) $13\,q - 3\,p$

c) $-3\,p - 5\,q$

d) $3\,q - 3\,p$

e) $-3\,p$

7. If $f(x) = x^3 + 4$ then $f(x + h) =$

   a) $(x + h)^3 + 4$

   b) $x^3 + h^3 + 64$

   c) $(x + h + 4)^3$

   d) $x^3 + h + 4$

   e) $x^3 + h^3 + 8$

8. $(125)^{\frac{2}{3}}(16)^{\frac{3}{4}} =$

   a)   200

   b)   10

   c)   40

   d)   50

   e)   2

9. $\dfrac{13}{13 + \frac{1}{2}} =$

a) $\frac{26}{27}$

b) $\frac{13}{7}$

c)   2

d) $\frac{2}{3}$

e)   6

10. If $f(x) = \dfrac{x-3}{x+3}$ then $f(7) =$

a) -4

b) $-\frac{2}{5}$

c) $\frac{2}{5}$

d)   2

e)   5

11. $\left(\dfrac{8}{5}\right)^{-2} =$

a) $\dfrac{25}{64}$

b) $-\dfrac{64}{25}$

c) $-\dfrac{25}{64}$

d) $-\dfrac{8}{5}$

e) $\dfrac{5}{8}$

12. $\dfrac{-14\,h\,k^4 - 2\,h^4\,k}{-2\,h\,k} =$

a) $7\,k^3 - 2\,h^4\,k$

b) $h^3 - 14\,h\,k^4$

c) $-12\,h^3\,k^3$

d) -12

e) $7\,k^3 + h^3$

13. If $f(x) = x^3 + 2$ then $f(x + h) =$

a) $x^3 + h^3 + 8$

b) $(x + h + 2)^3$

c) $x^3 + h + 2$

d) $(x + h)^3 + 2$

e) $x^3 + h^3 + 4$

14. The graph of $3\,x - y + 9 = 0$ crosses the x-axis at $x =$

a) 3

b)   9

c) -9

d) -3

e)   0

15. The length L of a spring is given by $L = \frac{2}{5}F + 2$ where F is the applied force. What force F will produce a length L of 8 ?

a)   25

b) $\frac{38}{5}$

c) $\frac{42}{5}$

d)   15

e)   8

16. $(x^2 - 3x + 3)(x^2 - 3) =$

a) $2x^2 - 3x$

b) $x^2 - 3x$

c) $x^4 - 3x - 9$

d) $27x^5$

e) $x^4 - 3x^3 + 9x - 9$

17. $(6w^5 z^4)(-8w^7 z^8) =$

a) $-48\,w^{12}\,z^{12}$

b) $-48\,w^{35}\,z^{32}$

c) $-2\,w^{35}\,z^{32}$

d) $-\frac{48}{w^2\,z^4}$

e) $-\frac{2}{w^2\,z^4}$

18. $\dfrac{y^2 - 7\,y + 12}{y^2 - 4} \cdot \dfrac{y + 2}{y^2 + 6\,y} =$

a) $\dfrac{y^2 - 7\,y + 12}{y^3 + 8\,y^2 + 12\,y}$

b) $\dfrac{y^2 - 7\,y + 12}{y^3 - 8\,y^2 + 12\,y}$

c) $\dfrac{y^2 - 7\,y + 12}{y^3 - 4\,y^2 - 12\,y}$

d) $\dfrac{y^2 - y - 12}{y^3 - 8\,y^2 + 12\,y}$

e) $\dfrac{y^2 - 7\,y + 12}{y^3 + 4\,y^2 - 12\,y}$

19. $\sqrt{128\,q^{47}\,z^{42}} =$

a) $b\,x + 8\,x$

b) $b\sqrt{9\,x}$

c) $\sqrt{9\,x}$

d) $\sqrt{65\,x}$

e) $8\,q^{23}\,z^{21}\,\sqrt{2\,q}$

20. $8 - [4(3 - 6) + 5] =$

    a) -5

    b) 15

    c) 25

    d) 7

    e) 1

21. $\dfrac{8}{\sqrt{10}} =$

    a) $\dfrac{\sqrt{10}}{8}$

    b) $\dfrac{4}{\sqrt{5}}$

    c) $\dfrac{\sqrt{5}}{4}$

    d) $\dfrac{4\sqrt{10}}{5}$

    e) $\sqrt{\dfrac{5}{4}}$

22. The solutions of $9\,x^2 + 21\,x + 6$ are

    a) -2 and $-\frac{1}{3}$

    b) -2 and $\frac{1}{3}$

    c) 2 and $\frac{1}{3}$

    d) 2 and $-\frac{1}{3}$

    e) -2 and -3

23. If $\dfrac{1}{-1} + 2 = \dfrac{w}{-1}$ then $w =$

    a) 9

    b) -9

    c) 3

    d) -11

    e) $-\frac{11}{3}$

24. $\dfrac{7}{3} - \dfrac{5}{4} =$

    a) $\dfrac{9}{2}$

    b) $\dfrac{9}{ab}$

    c) $\dfrac{13}{2}$

d) $\dfrac{64}{ab}$

e) $\dfrac{13}{12}$

25. $9^0 4^2 =$

   a)   16

   b)   0

   c)   8

   d)   144

   e)   1296