Problems for Gateway #1: Expanding Expressions

1. If the expression $-3 \cdot (t + 2) + t \cdot (t + 1)$ was expanded and simplified as much as possible, you could obtain:

    (a) $t^2 - 2t - 6$ **(b)** $t^2 + 2t - 6$

    (c) $t - 6$ **(d)** $t^2 - 3t + 3$

    (e) $-2t + 1$

2. If the expression $x \cdot (x + 2) + x$ was expanded and simplified as much as possible, you could obtain:

    (a) $x^2 + x + 2$ **(b)** $3x + 2$

    (c) $x^2 + 3x$ **(d)** $x^2 + 2x$

    (e) $2x^2 + x$

3. If the expression $a^2 \cdot (4 + a)$ was expanded and simplified as much as possible, you could obtain:

    (a) $4a + a^3$ **(b)** $16 + a^2$

    (c) $16a + 8a^2 + a^3$ **(d)** $4a^2 + a^3$

    (e) $4a^2 + a$

4. If the expression $(u + 3) \cdot (u + 1)$ was expanded and simplified as much as possible, you could obtain:

    (a) $u^2 + 3u + 1$ **(b)** $u^2 + 3$

    (c) $u^2 + 4$ **(d)** $2u + 4$

    (e) $u^2 + 4u + 3$

5. If the expression $3 \cdot (r + 1) + r^2$ was expanded and simplified as much as possible, you could obtain:

    (a) $r^2 + 3r + 3$ **(b)** $3r + 1 + r^2$

    (c) $3r + 1$ **(d)** $3r + 3$

    (e) $3r^2 + 3r + 3$

6.   If the expression $(h + 1) \cdot (h + 2)$ was expanded and simplified as much as possible, you could obtain:

(a) $h^2 + 2$

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

(c) $h^2 + 2h + 3$

(d) $h + 3$

(e) $h^3 + 3h^2 + 2h$

7.   If the expression $(w + 2) \cdot (w - 2)$ was expanded and simplified as much as possible, you could obtain:

(a) $w^2 + 4$

(b) $w^2 - 4$

(c) $w^2 + 2w + 4$

(d) $w^2 - 2w - 4$

(e) $w^2 - 2w + 4$

8.   If the expression $(p + 3) \cdot (p - 2)$ was expanded and simplified as much as possible, you could obtain:

(a) $p^2 - 1$

(b) $p^2 - 6$

(c) $p^2 + p - 6$

(d) $p^2 - p + 6$

(e) $p^2 + 3p - 2$

9.   If the expression $(w + 1) \cdot (w - 3)$ was expanded and simplified as much as possible, you could obtain:

(a) $w^2 + 2w - 3$

(b) $w^2 + w - 3$

(c) $w^2 - 3$

(d) $w^2 + 3w - 1$

(e) $w^2 - 2w - 3$

10.   If the expression $x^2 \cdot (x + 2)$ was expanded and simplified as much as possible, you could obtain:

(a) $x^3 + 2$

(b) $x + 2x^2$

(c) $x^2 + 2$

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

(e) $x^3 + 2x$

11. If the expression $r \cdot (r + 1)^2$ was expanded and simplified as much as possible, you could obtain:

(**a**) $r^3 + 2r^2 + r$ (**b**) $r^2 + 2r + 1$

(**c**) $r^3 + r$ (**d**) $r^3 + r^2 + r$

(**e**) $r^2 + 1$

12. If the expression $u \cdot (u - 2)$ was expanded and simplified as much as possible, you could obtain:

(**a**) $u^2 - 2$ (**b**) $u - 2u$

(**c**) $-u$ (**d**) $u^2 - 2u$

(**e**) $-u^2$

13. If the expression $(4 - 3x) \cdot x^2$ was expanded and simplified as much as possible, you could obtain:

(**a**) $4 - 3x^3$ (**b**) $4x^2 - 3x$

(**c**) $4x^2 - 3x^3$ (**d**) $-x^3$

(**e**) $-3x^3$

14. If the expression $(t^4 - 4t) \cdot t^2$ was expanded and simplified as much as possible, you could obtain:

(**a**) $t^4 - 4t^3$ (**b**) $t^6 - 4t^3$

(**c**) $t^6 - 4t$ (**d**) $t^4 - 4t^2$

(**e**) $4t^6$

15. If the expression $(p^2 + 2) \cdot p$ was expanded and simplified as much as possible, you could obtain:

(**a**) $p^3 + 2$ (**b**) $p^2 + 2p$

(**c**) $3p^3$ (**d**) $3p^2$

(**e**) $p^3 + 2p$

Answers:

1.	A	**2.**	C	**3.**	D	**4.**	E	**5.**	A	**6.**	B
7.	B	**8.**	C	**9.**	E	**10.**	D	**11.**	A	**12.**	D
13.	C	**14.**	B	**15.**	E						