Factor $18x^3 - 63x^2 + 9x$.

a. $9(2x^3 - 7x^2 + x)$ b. $9x(2x^2 - 7x)$

c. $9x(2x^2 - 7x + x)$ (d.) $9x(2x^2 - 7x + 1)$

Express $(k - 1)(k - 1)$ as a polynomial. 5-4

a. $k^2 + 1$ b. $2k + 1$ (c.) $k^2 - 2k + 1$ d. $k^2 + 2k + 1$

Express $(5m + 4n)(m + 4n)$ as a polynomial.

a. $5m^2 + 8n^2$ b. $5m^2 + 16n^2$

c. $5m^2 + 24mn + 8n^2$ (d.) $5m^2 + 24mn + 16n^2$

Express $(2m - 3n)(2m + 3n)$ as a polynomial. 5-5

a. $2m^2 - 3n^2$ (b.) $4m^2 - 9n^2$

c. $4m^2 + 12mn - 9n^2$ d. $4m^2 - 12mn - 9n^2$

Factor $49 - x^4$.

a. $(x^2 + 7)(x^2 - 7)$ (b.) $(7 + x^2)(7 - x^2)$

c. $(x^4 + 7)(x^4 - 7)$ d. $(7 - x^4)(7 + x^4)$

Express $(7r - 3s)^2$ as a polynomial. 5-6

a. $49r^2 + 9s^2$ b. $49r^2 - 9s^2$

c. $49r^2 + 42rs - 9s^2$ (d.) $49r^2 - 42rs + 9s^2$

Factor $a^2 - 2a + 1$.

a. not possible (b.) $(a - 1)^2$ c. $(a + 1)^2$ d. $(a - 2)^2$

Factor $a^2 + ab + b^2$.

(a.) not possible b. $(a + b)^2$ c. $(a - b)^2$ d. $(a + b)(a - b)$

Factor $y^2 - 7y + 12$. 5-7

a. not possible b. $(y - 12)(y - 1)$ (c.) $(y - 3)(y - 4)$

Factor $x^2 + 16x + 48$.

a. $(x + 6)(x + 8)$ b. $(x + 2)(x + 24)$ (c.) $(x + 4)(x + 12)$

Factor $n^2 + 12n - 45$. 5-8

a. $(n - 9)(n + 5)$ (b.) $(n + 15)(n - 3)$ c. $(n - 15)(n + 3)$

Factor $x^2 - 14x - 48$.

(a.) not possible b. $(x - 16)(x + 2)$ c. $(x + 4)(x - 12)$

Factor $8a^2 - 17a + 2$. 5-9

a. $(2a - 2)(4a - 1)$ (b.) $(8a - 1)(a - 2)$ c. $(8a - 2)(a - 1)$

Factor $3(x - 2) - 4x(2 - x)$. 5-10

a. $12x(x - 2)$ (b.) $(3 + 4x)(x - 2)$ c. $(4x - 3)(x - 2)$

Factor $2x^3y - 50xy$ completely. 5-11

a. $2y(x^2 - 25x)$ b. $2xy(x - 5)^2$ (c.) $2xy(x + 5)(x - 5)$

Factor $m^2 - 9n^2 + 2m - 6n$ completely.

a. $(m + 2)(m - 3n)$ (b.) $(m + 3n + 2)(m - 3n)$ c. $(m + 3n)(m - 3n)(m - 3n)$

Solve $5a(3a - 1)(2a + 4) = 0$. 5-12

(a.) $\{0, \frac{1}{3}, -2\}$ b. $\{0, 3, -2\}$ c. $\{0, 3, -\frac{1}{2}\}$ d. $\{0, \frac{1}{3}, -\frac{1}{2}\}$

I am thinking of four consecutive integers. The sum of the squares of the second and third is 61. Find the integers. 5-13

a. $\{4, 5, 6, 7\}$ b. $\{-10, -9, -8, -7\}$

c. no solution (d.) $\{-4, -5, -6, -7\}$ or $\{4, 5, 6, 7\}$