

Exercise 7E

Q10

Answer:

(c)
$$3(2m-3)(2m+3)$$

$$12m^2 - 27$$

= $3(4m^2 - 9)$
= $3(2m - 3)(2m + 3)$

Q11

Answer:

(d)
$$x(x + 1)(x - 1)$$

$$x^3 - x$$

= $x(x^2 - 1)$
= $x(x-1)(x+1)$

Q12

(c)
$$(1 + a + b)(1 - a - b)$$

$$egin{aligned} 1 - 2ab - \left(a^2 + b^2
ight) \ &= 1 - 2ab - a^2 - b^2 \ &= 1 - \left(2ab + a^2 + b^2
ight) \ &= 1 - \left(a + b
ight)^2 \ &= \left(1 - a - b\right)\left(1 + a + b\right) \end{aligned}$$

Answer:

(c)
$$(x + 2)(x + 4)$$

$$x^{2} + 6x + 8$$

$$= x^{2} + 4x + 2x + 8$$

$$= x(x+4) + 2(x+4)$$

$$= (x+2)(x+4)$$

Q14

(b)
$$(x + 7)(x - 3)$$

$$x^{2} + 4x - 21$$

$$= x^{2} + 7x - 3x - 21$$

$$= x(x+7) - 3(x+7)$$

$$= (x-3)(x+7)$$

Answer:

(a)
$$(y-1)(y+3)$$

$$y^{2} + 2y - 3$$

$$= y^{2} + 3y - y - 3$$

$$= y(y+3) - 1(y+3)$$

$$= (y-1)(y+3)$$

Q16

(c)
$$(5 + x)(8 - x)$$

$$40 + 3x - x^2$$

$$= 40 + 8x - 5x - x^{2}$$

$$= 8(5+x) - x(5+x)$$

$$= (8-x)(x+5)$$

Answer:

(b)
$$(x + 1)(2x + 3)$$

$$2x^{2} + 5x + 3$$

$$= 2x^{2} + 2x + 3x + 3$$

$$= 2x(x+1) + 3(x+1)$$

$$= (2x+3)(x+1)$$

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(c)
$$(3a-2)(2a-3)$$

$$6a^{2} - 13a + 6$$

$$= 6a^{2} - 9a - 4a + 6$$

$$= 3a(2a - 3) - 2(2a - 3)$$

$$= (3a - 2)(2a - 3)$$

Answer:

(a)
$$(2z-1)(2z-3)$$

 $4z^2-8z+3$
 $=4z^2-6z-2z+3$
 $=2z(2z-3)-1(2z-3)$
 $=(2z-1)(2z-3)$

Q20

Answer:

(b)
$$(1 + 8y)(3 - y)$$

$$3 + 23y - 8y^{2}$$

$$= 3 + 24y - y - 8y^{2}$$

$$= 3(1 + 8y) - y(1 + 8y)$$

$$= (3 - y)(1 + 8y)$$

********* END *******