

Worksheet

01/26/2020

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Problem quickname: 1444

1)

Simplify, remove the parentheses by multiplying out and combine like terms.

Quick:
1444

a) $4(b + a)^2 = 4(a^2 + 2ab + b^2) = 4a^2 + 8ab + 4b^2$

b) $(x + 3)^2x = (x^2 + 6x + 9)x = x^3 + 6x^2 + 9x$

c) $(x - 15)^2x = (x^2 - 30x + 225)x = x^3 - 30x^2 + 225x$

d) $(5 + x)^2x = (x^2 + 10x + 25)x = x^3 + 10x^2 + 25x$

e) $(a + b)^2 \cdot 4 = (a^2 + 2ab + b^2) \cdot 4 = 4a^2 + 8ab + 4b^2$

f) $(b + a)(b - a)2 = (b^2 - a^2) \cdot 2 = 2b^2 - 2a^2$

g) $x(x + 15)^2 = x(x^2 + 30x + 225) = x^3 + 30x^2 + 225x$

h) $a(a - b)^2 = a(a^2 - 2ab + b^2) = a^3 - 2a^2b + ab^2$

i) $3(a + b)^2 = 3(a^2 + 2ab + b^2) = 3a^2 + 6ab + 3b^2$

j) $3(11 - a)^2 = 3(a^2 - 22a + 121) = 3a^2 - 66a + 363$

2)

Simplify, remove the parentheses by multiplying out and combine like terms.

Quick:
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a) $(a - 4)^2 - a^2 = (a^2 - 8a + 16) - a^2 = 16 - 8a$

b) $(a - b)^2 - ba = (a^2 - 2ab + b^2) - ba = a^2 - 3ab + b^2$

c) $(x - y)^2 - yx = (x^2 - 2xy + y^2) - yx = x^2 - 3xy + y^2$

d) $a^2 + (a + 16)(a - 16) = a^2 + (a^2 - 256) = 2a^2 - 256$

e) $ab + (b - a)^2 = ab + (a^2 - 2ab + b^2) = a^2 - ab + b^2$

f) $(2 - x)^2 - 2x = (x^2 - 4x + 4) - 2x = x^2 - 6x + 4$

g) $(x + 7)(x - 7) + 7x = (x^2 - 49) + 7x = x^2 + 7x - 49$

h) $7x + (7 + x)^2 = 7x + (x^2 + 14x + 49) = x^2 + 21x + 49$

i) $(y + x)^2 - xy = (x^2 + 2xy + y^2) - xy = x^2 + xy + y^2$

j) $x^2 + (x - 20)^2 = x^2 + (x^2 - 40x + 400) = 2x^2 - 40x + 400$

3)

Simplify, remove the parentheses by multiplying out and combine like terms.

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a) $8(b + a)^2 = 8(a^2 + 2ab + b^2) = 8a^2 + 16ab + 8b^2$

b) $7(a + 6)^2 = 7(a^2 + 12a + 36) = 7a^2 + 84a + 252$

c) $(a - b)^2 \cdot 3 = (a^2 - 2ab + b^2) \cdot 3 = 3a^2 - 6ab + 3b^2$

d) $(11 + a)^2 \cdot 5 = (a^2 + 22a + 121) \cdot 5 = 5a^2 + 110a + 605$

e) $(x + y)^2 \cdot 7 = (x^2 + 2xy + y^2) \cdot 7 = 7x^2 + 14xy + 7y^2$

- f) $8(x + y)^2 = 8(x^2 + 2xy + y^2) = 8x^2 + 16xy + 8y^2$
 g) $(14 - a)^2 \cdot 6 = (a^2 - 28a + 196) \cdot 6 = 6a^2 - 168a + 1176$
 h) $2(13 + x)^2 = 2(x^2 + 26x + 169) = 2x^2 + 52x + 338$
 i) $(4 + a)^2 \cdot 7 = (a^2 + 8a + 16) \cdot 7 = 7a^2 + 56a + 112$
 j) $10(5 + x)^2 = 10(x^2 + 10x + 25) = 10x^2 + 100x + 250$

4)

Quick:
1444

Simplify, remove the parentheses by multiplying out and combine like terms.

- a) $yx + (x + y)^2 = yx + (x^2 + 2xy + y^2) = x^2 + 3xy + y^2$
 b) $3(b - a)^2 = 3(a^2 - 2ab + b^2) = 3a^2 - 6ab + 3b^2$
 c) $(x + 5)(x - 5) + x^2 = (x^2 - 25) + x^2 = 2x^2 - 25$
 d) $8 + (b - a)^2 = 8 + (a^2 - 2ab + b^2) = a^2 - 2ab + b^2 + 8$
 e) $(y + x)(y - x) + xy = (y^2 - x^2) + xy = xy - x^2 + y^2$
 f) $(x - 14)^2 + x^2 = (x^2 - 28x + 196) + x^2 = 2x^2 - 28x + 196$
 g) $(20 - a)^2 - 4 = (a^2 - 40a + 400) - 4 = a^2 - 40a + 396$
 h) $(12 - a)^2 \cdot 7 = (a^2 - 24a + 144) \cdot 7 = 7a^2 - 168a + 1008$
 i) $(x - y)^2 + 10 = (x^2 - 2xy + y^2) + 10 = x^2 - 2xy + y^2 + 10$
 j) $8(b - a)^2 = 8(a^2 - 2ab + b^2) = 8a^2 - 16ab + 8b^2$

Good Luck!