



Add: (Show all work)

$$(10x^2 - 2xy - 5x + 14y^2) + (-4x^2 + 8xy + 1x + 5y^2)$$



Things you already know...

$$18 - 5 = 13$$

$$15x - 31x \\ = -16x$$



Add the opposite

$$11 - (-5) \\ 11 + 5 \\ 16$$

$$-18 - (-11) \\ -18 + 11 \\ -7$$





Or

$$(5x - 11) - (3x - 6)$$

$$5x - 11 - (3x) - (-6)$$

$$5x - (3x) - (-6) - 11$$

☺☺☺

$$5x - (3x) + 6 - 11$$

$$2x - 5$$

$$(5x - 11) - (3x - 6)$$

Remove the brackets.

$$5x - 11 - 3x + 6$$

Add the Opposite!

(2nd bracket -
change signs)

Collect like terms.

$$5x - 3x - 11 + 6$$

$$2x - 5$$

$$(5x + 7) + (-2x + 3)$$

$5x + 7$ $-2x + 3$

You Try

1st bracket remains the same
2nd bracket change signs

$$(20x^2 + 12x - 7) - (13x^2 - 2)$$

$$20x^2 + 12x - 7 - 13x^2 + 2$$

$$20x^2 - 13x^2 + 12x - 7 + 2$$

$$7x^2 + 12x - 5$$

Try This!

$$\begin{array}{r} (6x^2 - 4x + 2) - (-8x^2 - 9x + 2) \\ \underline{6x^2 - 4x + 2 + 8x^2 + 9x - 2} \\ 6x^2 + 8x^2 - 4x + 9x + 2 - 2 \\ 14x^2 + 5x \end{array}$$



Example 3.

The height of a ball kicked on Earth can be modelled by: $18 + 35t - 4.9t^2$

On Mars the height is modelled by: $52 + 26t - 1.3t^2$

Find a formula for the difference in the height of the ball on Mars as compared to Earth.

Mars - Earth

$$(52 + 26t - 1.3t^2) - (18 + 35t - 4.9t^2)$$

$$52 + 26t - 1.3t^2 - 18 - 35t + 4.9t^2$$

$$4.9t^2 - 1.3t^2 + 26t - 35t - 18 + 52$$

$$3.6t^2 - 9t + 34$$

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(No algebra tiles just combine like terms and subtract)

#7 ac

#8 a, c, f, h

#9 a, b

#13a, b

#15 c

#16a

