



Class/Homework



Page 228 - 229

MUST USE ALGEBRA TILES

3 (ab)

4) MUST USE ALGEBRA TILES

5 ac

6ac **#12**

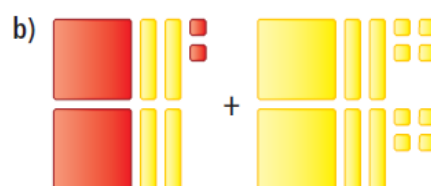
8acefh **#14**

9acefh **#15ace**

#16a

10a(i, iv)

3. Write the polynomial sum modelled by each set of tiles.



4. Explain how to use algebra tiles to determine $(3x^2 + 2) + (x^2 - 1)$.
What is the sum?

$$(3x^2 + 2) + (x^2 - 1) = 4x^2 + 1$$



5. Use algebra tiles to model each sum of binomials. Record your answer symbolically.

a) $(5g + 3) + (2g + 4)$

b) $(3 - 2j) + (-4 + 2j)$

c) $(p + 1) + (5p - 6)$

d) $(7 + 4m) + (-5m + 4)$

6. Add these polynomials. Visualize algebra tiles if it helps.

$$\begin{array}{r} \text{a) } 2x + 4 \\ + 3x - 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b) } 3x^2 + 5x \\ + -2x^2 - 8x \\ \hline \end{array}$$

$$\begin{array}{r} \text{c) } 3x^2 + 5x + 7 \\ + -8x^2 - 3x + 5 \\ \hline \end{array}$$

8. Add by collecting like terms

a) $(6x + 3) + (3x + 4)$

b) $(5b - 4) + (2b + 9)$

c) $(6 - 3y) + (-3 - 2y)$

d) $(-n + 7) + (3n - 2)$

e) $(-4s - 5) + (6 - 3s)$

f) $(1 - 7h) + (-7h - 1)$

g) $(8m + 4) + (-9 + 3m)$

h) $(-8m - 4) + (9 - 3m)$

9. Add the following by collecting like terms

a) $(4m^2 + 4m - 5) + (2m^2 - 2m + 1)$ b) $(3k^2 - 3k + 2) + (-3k^2 - 3k + 2)$

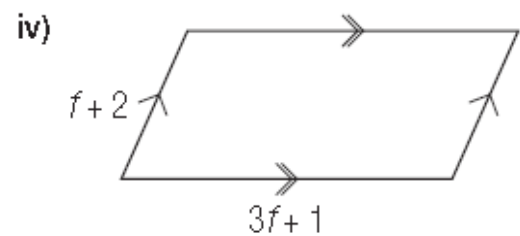
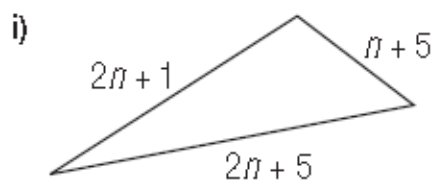
c) $(-7p - 3) + (p^2 + 5)$ d) $(9 - 3t) + (9t + 3t^2 - 6t)$

$$\text{e) } (3x^2 - 2x + 3) + (2x^2 + 4) \quad \text{f) } (3x^2 - 7x + 5) + (6x - 6x^2 + 8)$$

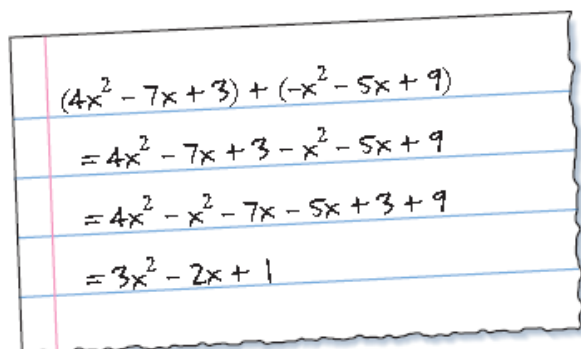
$$\text{g) } (6 - 7x + x^2) + (6x - 6x^2 + 10) \quad \text{h) } (1 - 3r + r^2) + (4r + 5 - 3r^2)$$

10. a) For each shape below, write the perimeter:

- as a sum of polynomials
- in simplest form



12. A student added $(4x^2 - 7x + 3)$ and $(-x^2 - 5x + 9)$ as follows.


$$\begin{aligned}(4x^2 - 7x + 3) + (-x^2 - 5x + 9) \\= 4x^2 - 7x + 3 - x^2 - 5x + 9 \\= 4x^2 - x^2 - 7x - 5x + 3 + 9 \\= 3x^2 - 2x + 1\end{aligned}$$

Is the student's work correct?

If not, explain where the student made any errors and write the correct answer.

14. The sum of two polynomials is $12m^2 + 2m + 4$.
One polynomial is $4m^2 - 6m + 8$.
What is the other polynomial?
Explain how you found your answer.

$$\begin{array}{r} 4m^2 - 6m + 8 \\ + (\quad \quad \quad) \\ \hline 12m^2 + 2m + 4 \end{array}$$

15. Create a polynomial that is added to $3x^2 + 7x + 2$ to get each sum.

a) $5x^2 + 10x + 1$

$$\begin{array}{r} 3x^2 + 7x + 2 \\ + (\quad \quad \quad) \\ \hline 5x^2 + 10x + 1 \end{array}$$

b) $2x^2 + 5x + 8$

$$\begin{array}{r} 3x^2 + 7x + 2 \\ + (\quad \quad \quad) \\ \hline 2x^2 + 5x + 8 \end{array}$$

c) $4x^2 + 3x$

$$\begin{array}{r} 3x^2 + 7x + 2 \\ + (\quad \quad \quad) \\ \hline 4x^2 + 3x \end{array}$$

d) $-x^2 + x - 1$

$$\begin{array}{r} 3x^2 + 7x + 2 \\ + (\quad \quad \quad) \\ \hline -x^2 + x - 1 \end{array}$$

e) $2x + 3$

$$\begin{array}{r} 3x^2 + 7x + 2 \\ + (\quad \quad \quad) \\ \hline 2x + 3 \end{array}$$

f) 4

$$\begin{array}{r} 3x^2 + 7x + 2 \\ + (\quad \quad \quad) \\ \hline 4 \end{array}$$

16. a) What polynomial must be added to $5x^2 + 3x - 1$ to obtain a sum of 0? Justify your answer. •

$$\begin{array}{r} 5x^2 + 3x - 1 \\ + (\quad \quad \quad) \\ \hline 0x^2 + 0x + 0 \end{array}$$

•