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BLM 5–5

Section 5.3 Extra Practice

1. Rewrite the polynomials by collecting like terms. Then, simplify.

a) $(3x^2 - 2x) + (x^2 + x)$

$= 3x^2 - 2x + x^2 + x$

$= \boxed{3x^2} \; \bigcirc{-2x} \; \boxed{+ x^2} \; \bigcirc{+ x}$

$= 3x^2 + x^2 - 2x + x$

$= \_\_\_\_\_x^2 - \_\_\_\_\_x$

b) $(4n^2 - 2n - 4) + (-n^2 + 5n)$

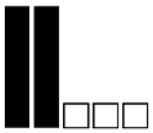
c) $(7r - 8) + (3r^2 - 11)$

d) $(2b^2 - 8b) + (-2b^2 + 11b)$

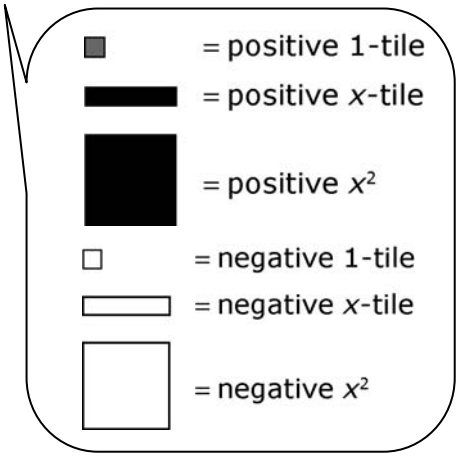
e) $(7t^2 - 6t + 9) + (-2t^2 + 6t - 5)$

f) $(-14k - 10) + (8k - 23)$

2. Find the opposite of the expression shown by each diagram.
Draw a diagram and write the symbols.

a) 

b) 



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3. Write the opposite of each expression.

a) $6a$

b) $-3c^2 - 9$

c) $d^2 - 8d + 2$

d) $6w^2 + 4w - 0.8$

4. Subtract the polynomials by adding the opposite terms, collecting like terms, and then simplifying.

a) $(5a - 4) - (3a - 2)$

b) $(7 - 6r) - (3 + r)$

= $5a - 4 + (-3a) +$ _____ Add the opposite.

$= 5a - 3a - 4 +$ _____ Collect like terms.

= _____a – _____ Simplify.

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

d) $(8 - 5t) - (-9 - 4t)$

e) $(h - 1) - (3h^2 + 7)$

f) $(4k^2 - 6k + 1) - (-2k^2 + 5)$

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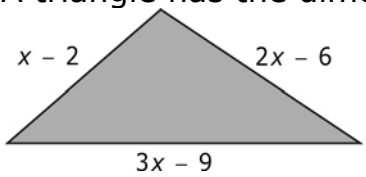
(continued)

5. A triangle has the dimensions shown.



a) Write an expression for the perimeter of the triangle.

b) If $x = 6$, what is the perimeter? Show your work.

c) Simplify the expression in part a) for the perimeter of the triangle.

d) Use this expression to find the perimeter if $x = 6$. Show your work.

e) What do you notice about the answers from b) and d)?

_____

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