

Review

February 1, 2015 3:05 PM

1. Expand and simplify.

- a) $5ab^2(6a^3 + 10a^2b + 4ab^2)$ b) $(-2t - r)(-3t + r)$ c) $2(x - 7)(2x + 1)$

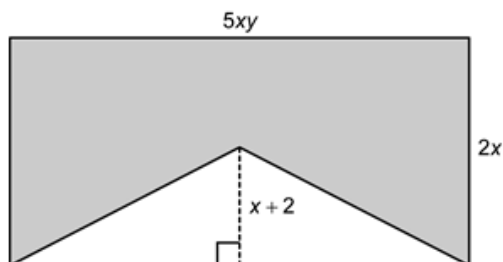
2. Factor.

- a) $8x^3 - 6x^2y^2 + 4x^2y$ b) $4x^2 + 6xy + 12y + 8x$
c) $x^2 - x - 72$ d) $4x^2 - 12xy + 9y^2$

3. Factor fully, if possible.

- a) $9x^2 + 8x + 25$ b) $4x^2 - 40x + 84$
c) $8 - 18w^2$ d) $121x^2 - 9y^2$
e) $4x^2 + 18x + 20$

4. a) Write a **simplified** expression for the shaded area in the diagram.



b) Factor this expression.

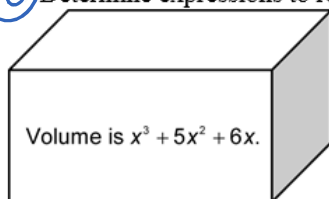
5. a) Determine two values of c so that the expression can be factored $x^2 - 9x + c$
b) Find six values of k so that the trinomial can be factored over the integers $12x^2 + kx + 14$

6. Explain how to determine the value(s) of k so that the trinomial can be factored over the integers $kx^2 - 40xy + 16y^2$

7. A square has side length $4a$. One dimension is increased by 6 and the other is decreased by 6.

- a) Write an algebraic expression to represent the area of the resulting rectangle.
b) Expand this expression and simplify.
c) Write and simplify an algebraic expression for the change in area from the square to the rectangle.
d) Calculate the new area of the rectangle if a represents 5 cm.

8. Determine expressions to represent the dimensions of this rectangular prism.



9) Complete the Square

a) $-9x^2 + 18x + 1$

b) $-\frac{1}{3}x^2 + 2x - 5$

c) $-\frac{2}{5}x^2 - 6x - 10$

10) Solve each equation by completing the square.

a) $x^2 + 14x - 10 = 5$

b) $x^2 - 4x = 2$