

M10-C Polynomials Review Assignment

Name: _____

Complete all problems on a separate sheet of paper.

1. Determine the prime factorization of 204.
2. Determine the GCF of each set of terms.
a) 30 and 45 b) 84 and 112
3. Write $\frac{105}{120}$ as a simplified fraction in lowest terms.
4. Determine the product and then simplify by combining like terms.
a) $(x+8)(x-7)$ b) $(2y+3z)(4y+5z)$ c) $(2a+7)(2a-7)$

d) $(2m-3)^2$ e) $(x+3)(x^2-5x-8)$ f) $-2(r-3s)(r+3s)$
5. Completely factor the following polynomials, if possible.
a) $2x^2+10x$ b) x^3+6x^2+3x c) $27x^2y^5z-81xy^3z+45xy^4z$
6. Completely factor the following polynomials, if possible.
a) x^2+2x-8 b) x^2-5x+6 c) $2x^2-10x+12$

d) $4x^2+4x-3$ e) $x^2-6xy+8y^2$ f) x^2-x-20

g) $9x^2-12x-5$ h) $8x^2-10x+2$ i) $-6x^2+45x-81$
7. Completely factor the following polynomials, if possible.
a) s^2-64 b) d^2-121 c) $4h^2-25$

d) $9m^2-81n^2$ e) $144-4b^2$ f) $98c-18cd^2$
8. Completely factor the following polynomials, if possible.
a) $b^2+14b+49$ b) $a^2+24ab+144b^2$ c) $9g^2-24g+16$

d) What is special about the trinomials in a), b), and c) above?

9. Completely factor the following polynomials, if possible.

a) $x^2 + 8x - 9$

b) $4x^2y + 6xy$

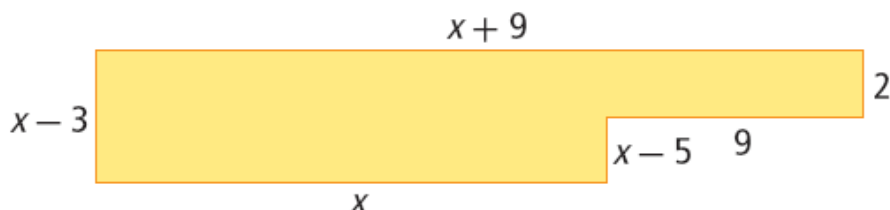
c) $x^2 + 2xy - 120y^2$

d) $6b^2 + 8b + 2$

e) $16 - 4y^2$

f) $3x^2 - 15x + 18$

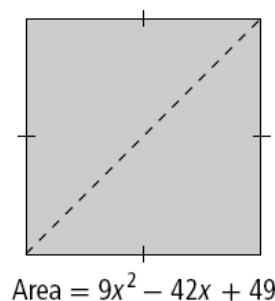
10. Write a simplified expression to represent the area.



11. The expression for a square field's area is as shown in the diagram. A fence borders the field, and also partitions it in half by running diagonally from corner to corner.

a) Determine an expression for the perimeter of the field in simplified form and in factored form.

b) If $x = 20$ m, what is the length of the fence, to the nearest tenth of a metre?



12. Given the volume of the rectangular prism as shown in the diagram, write the algebraic expressions that represent its dimensions. Then, calculate the dimensions of the rectangular prism if $x = 5$ cm.

