

DEPARTMENT OF MATHEMATICS and COMPUTER SCIENCE
BCC, CUNY

MATH 05 Test 4 Chapters 9 — 10 Review

- Factor completely
 - $96p^3q - 54pq^3$
 - $81x^8 - 256y^4$
 - $12a^3 - 22a^2b - 70ab^2$
 - $2x^2 + 5xy - 3y^2$
 - $2x^3 - 7x^2y - 50xy^2 + 175y^3$
- Which of the following is a factor of the polynomial $20ac + 8ad - 25bc - 10bd$?
 - $4c - 5d$
 - $4a + 5b$
 - $5c + 2d$
 - $5c - 2d$
 - none of them
- Which of the following is a factor of the polynomial $x^2 - 13x - 30$?
 - $x + 3$
 - $x - 10$
 - $x - 15$
 - $x - 6$
 - $x + 6$
- Which of the following is a factor of the polynomial $2x^2 - 13x + 15$?
 - $2x - 3$
 - $x - 3$
 - $2x - 5$
 - $2x + 3$
 - $x + 5$
- Find all real number solutions of the equation $18 - 2x^2 = 0$
- Find all solutions to the equation $2y^2 + 4y = 0$
- Find all real number solutions of the equation $8x^3 - 52x^2 + 60 = 0$
- Find all real number solutions of the equation $6x^2 + 5x - 4 = 0$
- Determine whether the quadratic equation $x^2 + 4x + 7 = 0$ has zero, one, or two distinct real number solutions (use discriminant from quadratic formula)
- Determine whether the quadratic equation $x^2 + 4x + 4 = 0$ has zero, one, or two distinct real number solutions (use discriminant from quadratic formula)

11. Given the function $f(x) = -3x^2 + 22x - 7$, the graph of $f(x)$ is called a parabola
- Is it cupped upwards \cup or downwards \cap ?
 - Find its vertex
 - Find its y-intercept, if it exists
 - Find its x-intercepts, if they exist
12. Re-write the equation $x^2 - 8x - 15$ in the form $a(x - h)^2 + k$ (complete the square)
13. Re-write the equation $4x^2 - 12x + 1$ in the form $a(x - h)^2 + k$ (complete the square)