

- ❖ Show all work
- ❖ No notes, books, or calculators allowed.
- ❖ Write answers in lowest terms when possible

Factor the following expressions completely.

1. (3 points) $36t^2x^4 - 45t^2x^3 + 24t^2x^2$

$$\begin{aligned} &= t^2x^2(36x^2 - 45x + 24) \\ &= 3t^2x^2(12x^2 - 15x + 8) \end{aligned}$$

2. (4 points) $x^2 - 4x + 6xy - 24y$

$$\begin{aligned} &= x(x-4) + 6y(x-4) \\ &= (x-4)(x+6y) \end{aligned}$$

3. (3 points) $x^2 + 3x - 18$

$$= (x+6)(x-3)$$