

## Exercises:

### Factor

$$(a) \quad \underbrace{y^2 - 10y + 25}_{\text{a quadratic trinomial, terms fit together to form... a PST actually.}} - 4x^2$$

$$= (y-5)^2 - 4x^2$$

$$= (y-5)^2 - (2x)^2$$

$$= (y-5-2x)(y-5+2x)$$

$$= (y-2x-5)(y+2x-5)$$

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$$(b) \quad \underbrace{b^2c^2 - 4bc}_{\text{a beginning for a quadratic}} - b^2 - c^2 + 1$$

$$= \dots$$

$$= b^2c^2 - 4bc$$

a constant is needed

$$= b^2c^2 - 2bc + 1 - b^2 - c^2 - 2bc$$

$$= (bc-1)^2 - (b^2 + 2bc + c^2)$$

$$= (bc-1)^2 - (b+c)^2$$

$$= [(bc-1) - (b+c)][(bc-1) + (b+c)]$$

$$= (bc - b - c - 1)(bc + b + c - 1)$$