

Please do not write in the margins of the page!

Factor each polynomial completely:

1) $T^2 - 49 = T^2 - 7^2$, a difference of squares
 $= (T - 7)(T + 7)$

2) $25x^2 - y^{16} = (5x)^2 - (y^8)^2$, a difference of squares
 $= (5x - y^8)(5x + y^8)$

3) Factor the polynomial using the AC method:

$$2y^2 - 7y + 5$$

First split the middle term in the correct way:

$$2y^2 - 2y - 5y + 5$$

Then factor by grouping:

$$= 2y(y - 1) - 5(y - 1)$$

$$= (y - 1)(2y - 5)$$

Another way:

$$2y^2 - 7y + 5$$

First split the middle term in the correct way:

$$2y^2 - 5y - 2y + 5$$

Then factor by grouping:

$$= y(2y - 5) - 1(2y - 5)$$

$$= (2y - 5)(y - 1)$$
