

Name: Key

Quiz #5

* Factor each expression completely:

① $30m^6 + 15m^2n^2 - 25m$
$$5m(6m^5 + 3mn^2 - 5)$$

② $10x^3y^2 - 20x^2y^2 + 14xy^2$
$$2xy^2(5x^2 - 10x + 7)$$

③ $3mn - 8m + 15n - 40$

$$\begin{aligned} &= m(3n-8) + 5(3n-8) \\ &= (3n-8)(m+5) \end{aligned}$$

④ $42x^3 - 49x^2 + 18x - 21$

$$\begin{aligned} &= 7x^2(6x-7) + 3(6x-7) \\ &= (6x-7)(7x^2+3) \end{aligned}$$

⑤ $4ab + 14a^2 + 12b + 42a$

$$\begin{aligned} &= 2(2ab + 7a^2 + 6b + 21a) \\ &= 2[a(2b+7a) + 3(2b+7a)] \\ &= 2(2b+7a)(a+3) \end{aligned}$$