

Do Now

Factor each of the following completely

① $x^4 - 10x^2y^2 + 25y^4$

④ $x^4 + 10x^2y^2 + 16y^4$

② $2x^2 + 7xy - 15y^2$

⑤ $2x^5 + x^4 - 2x^3 - x^2 - 4x - 2$

③ $4a^7b^3 - 10a^6b^2 - 24a^5b$

⑥ $(4x^2 + 5x)^2 - 5(4x^2 + 5x) - 6$

⑦ $2x^6 + 128y^9$

⑧ Given $q(x) = \frac{1}{3x^2 - 2}$, create functions f, g and h such that $q(x) = g \circ f \circ h$. (in 2 different ways)

(9) Use the algebraic definition of absolute value to rewrite as a piecewise function and graph.

$$f(x) = |4x - 3|$$

(10) Perform the indicated operation and state restrictions:

$$\frac{p}{2p^2 + 3pq - 2q^2} - \frac{3q}{4p^2 - 4pq + q^2}$$