

Multiplying & Factoring (Section 2-2)

* Multiply a monomial to a polynomial: distribute the monomial.

ex: $5n(3n^3 - n^2 + 8)$
 $= 15n^4 - 5n^3 + 40n$

ex: $(b+1)2b$
 $= 2b^2 + 22b$

ex: $-8y^3(7y^2 - 4y - 1)$
 $= -56y^5 + 32y^4 + 8y^3$

* Finding a GCF is the opposite of distributing.

ex: $3x^4 - 9x^2 - 12x$
 $= 3x(x^3 - 3x - 4)$
GCF

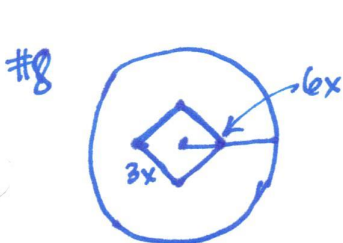
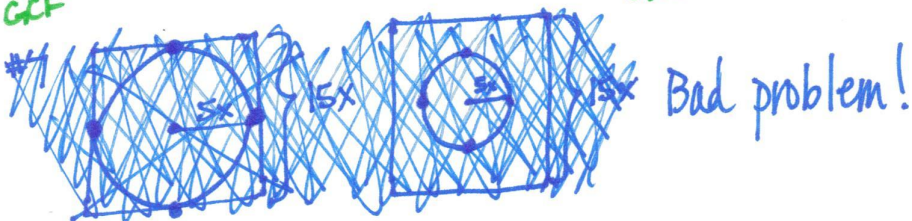
ex: $14z^4 - 42z^3 + 21z^2$
 $= 7z^2(2z - 6z + 3)$
GCF

ex: $9x^6 + 15x^4 + 12x^2$
 $= 3x^2(3x^4 + 5x^2 + 4)$
GCF

ex: $-6x^4 - 18x^3 - 12x^2$
 $= -6x^2(x^2 + 3x + 2)$
GCF

ex: $14n^3 - 35n^2 + 28$
 $= 7(2n^3 - 5n^2 + 4)$
GCF

ex: $g^4 + 24g^3 + 12g^2 + 4g$
 $= g(g^3 + 24g^2 + 12g + 4)$
GCF



Circle: $A = \pi(6x)^2 = 36x^2\pi$

Square: $A = (3x)^2 = 9x^2$

Blue Area: $36x^2\pi - 9x^2$
 $= 9x^2(4\pi - 1)$