10.6 Double Factoring

Factor: $2b^2 - 12b - 80$

Factor: $-4g^2 + 12g + 112$

Factor: $30k^5 + 57k^4 - 18k^3$

Solve: $6b^2 = -48b$

Solve: $45r^3 + 51r^2 - 13r = -r$

You try: $-24b^2 - 76b - 12$

SUMMARY:

10.6 Double Factoring

PRACTICE

Directions #1-6: Factor completely.	
1) $-4r^2 + 20r + 144$	2) $4n^3 + 68n^2 + 288n$
3) $20n^4 + 76n^3 + 48n^2$	4) $42x^2 + 6x - 36$
5) $-60x^2 + 15$	6) $8p^2 - 50$

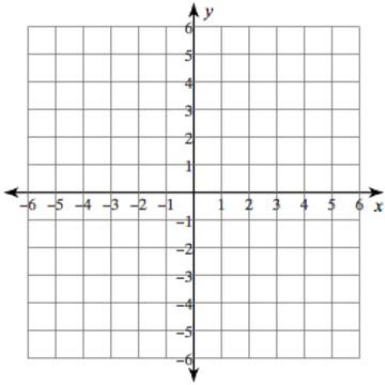| Directions #7-10: Solve each equation.	
7) $8x^2 + 40x = 0$	8) $3a^3 - 24a^2 = -42a + 3a^2$
9) $28k^2 - 192k = -144$	10) $6x^3 + 9x^2 = 60x$

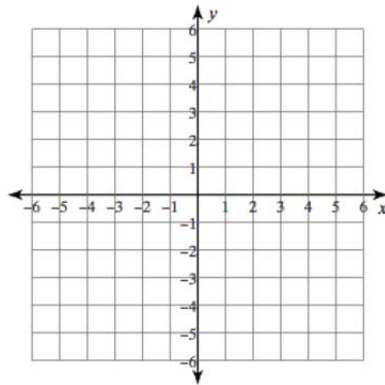| SKILLZ REVIEW		
Graph.	List all pairs of numbers that multiply to the given number.	Which number pair contains the largest perfect square?
1) y = 2 	2) 45	3) Use 45
4) 5x – 3y = 12 	5) 72	6) Use 72

1) Solve: $11x^3 - 3x^2 = 5x^3 - 3x + 6x^2$

Directions: A projectile is an object that is propelled into the air, but has no power to keep itself in the air, like a thrown ball. The height of a projectile can be described by the vertical motion model:

$s(t) = -16t^2 + vt + h$, where **s(t)** represents the height of the projectile, **t** represents the time in seconds the object has been in the air, **v** is the initial velocity (in feet per second) and **h** is the initial height(in feet).

3) A cliff diver jumps from a ledge 96 feet above the ocean with an initial upward velocity of 16 feet per second.

   a) Write an equation that represents this situation.

   b) How long will it take until the diver enters the water? (Hint: You should factor out a GCF first).
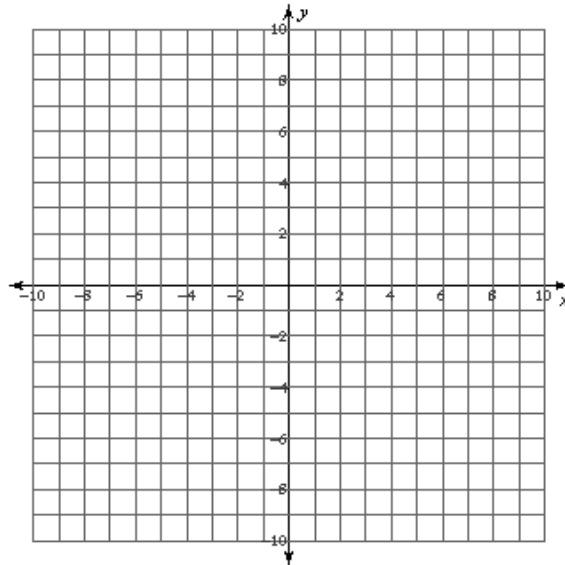
4) Use the function $f(x) = x^3 + 2x^2 - 3x$ to answer the following.

a) Complete the table. Plot on graph.

X	F(x)
-3.5	
-3	
-2	
-1	
0	
.5	
1	
2	

b) Put the function into factored form.

c) Find the zeroes of the function. Plot them on the graph.

d) How do the zeroes relate to the graph?