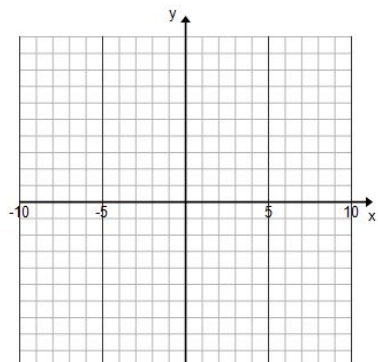


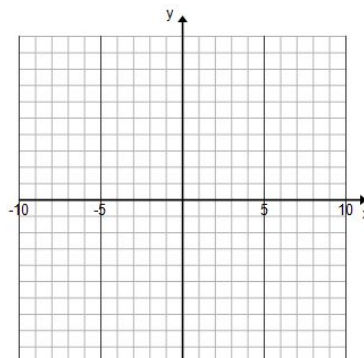
A3.2B Factoring & Graphing Math 1050

Name _____

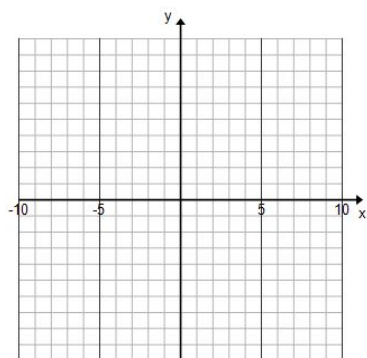
1. Factor then graph: $P(x) = (2 - x)(x + 5)$
Label your y-Intercept.



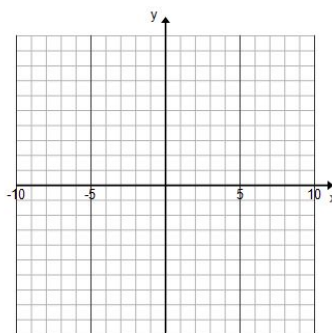
2. Factor then graph: $P(x) = (2x - 5)(x + 5)(x + 1)^2$
Label your y-Intercept.



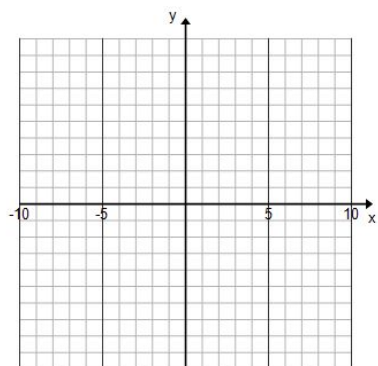
3. Factor then graph: $P(x) = x^3 - 2x^2 - 8x$
Label your y-Intercept.



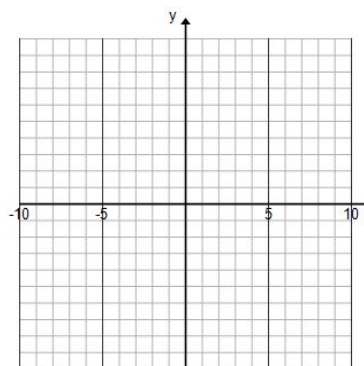
4. Factor then graph: $P(x) = -2x^3 - x^2 + x$
Label your y-Intercept.



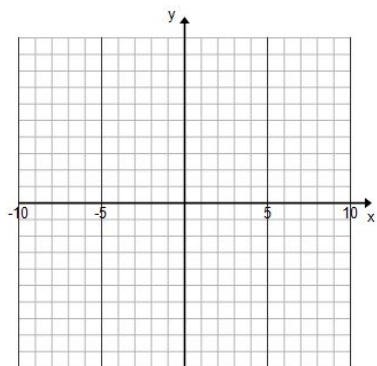
5. Factor then graph: $P(x) = x^4 - 3x^3 + 2x^2$



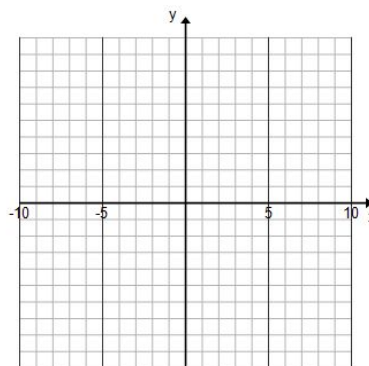
6. Factor then graph: $P(x) = x^5 - 9x^3$



7. Factor then graph: $P(x) = x^3 + x^2 - x - 1$
Label your y-Intercept.



8. Factor then graph: $P(x) = x^3 + 3x^2 - 4x - 12$
Label your y-Intercept.



9.

9–14 ■ A polynomial function is given. (a) Describe the end behavior of the polynomial function. (b) Match the polynomial function with one of the graphs I–VI.

9. $P(x) = x(x^2 - 4)$

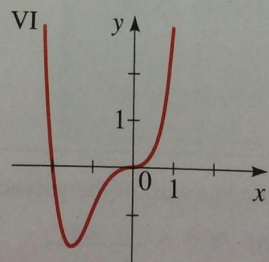
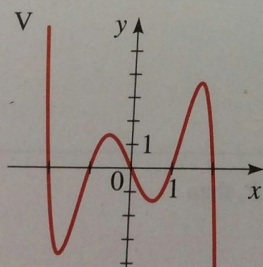
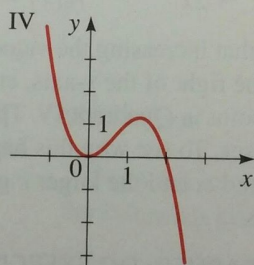
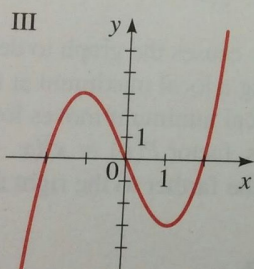
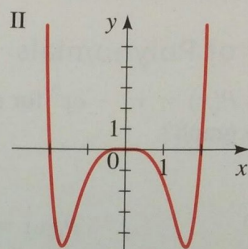
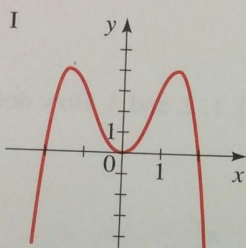
10. $Q(x) = -x^2(x^2 - 4)$

11. $R(x) = -x^5 + 5x^3 - 4x$

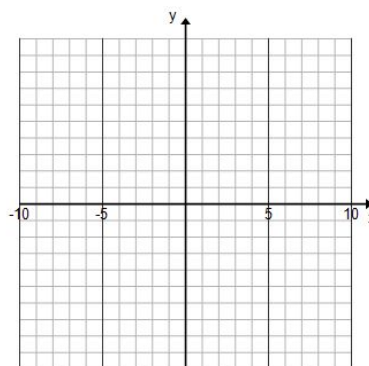
12. $S(x) = \frac{1}{2}x^6 - 2x^4$

13. $T(x) = x^4 + 2x^3$

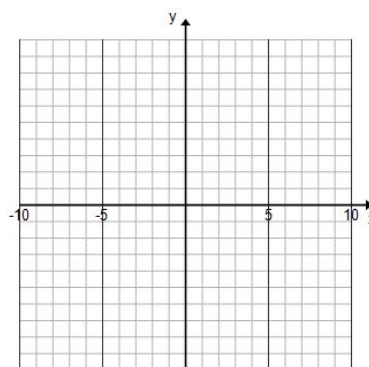
14. $U(x) = -x^3 + 2x^2$



10. Factor then graph: $P(x) = 2x^3 - x^2 - 18x + 9$.
Label your y-Intercept.

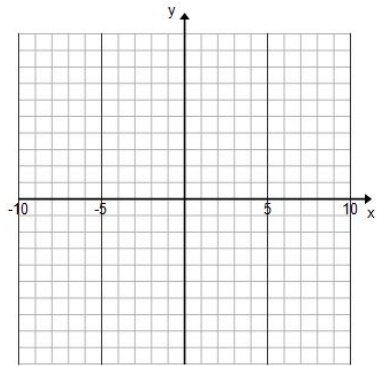


11. Factor then graph:
 $P(x) = x^4 - 2x^3 - 8x + 16$.
Label your y-Intercept.



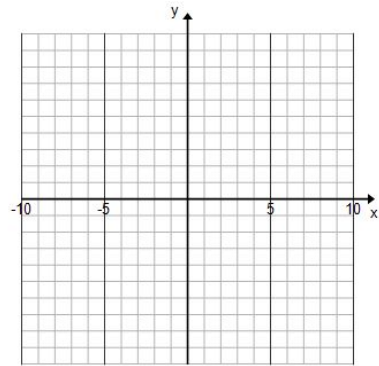
12. Factor then graph:

$$P(x) = x^4 - 3x^2 - 4.$$



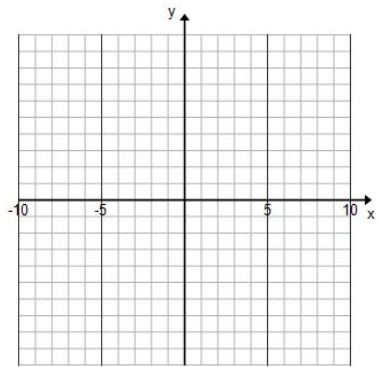
13. Factor then graph:

$$P(x) = 2x^3 - 1x^2 - 50x + 25.$$



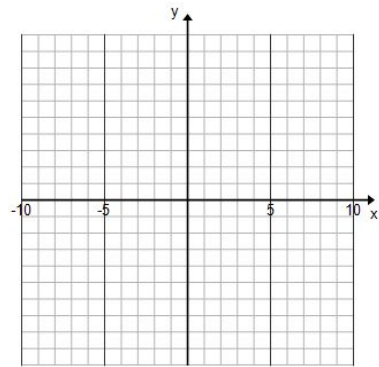
14. Factor then graph:

$$P(x) = x^4 + 2x^3 - 27x - 54.$$



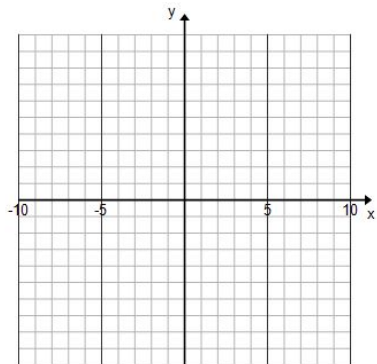
15. Factor then graph:

$$P(x) = -x^4 + 14x^2 - 45.$$



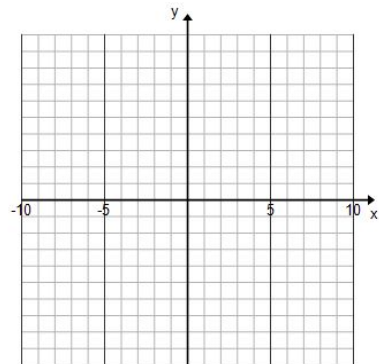
16. Factor then graph:

$$P(x) = -9x^3 + 3x^2 + 30x.$$



17. Factor then graph:

$$P(x) = -x^3 + 2x^2 + 4x - 8.$$



18. Find the Domain:

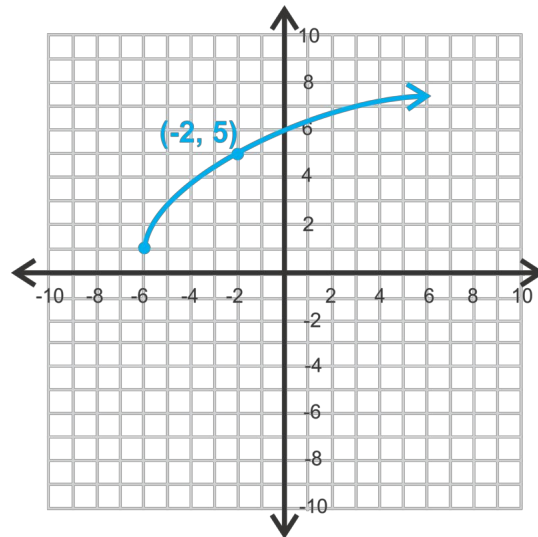
$$f(x) = \frac{\sqrt{3x-x^2}}{x-1}$$

19. If the graph below is $f(x)$. Graph the following:

a) $f(\frac{1}{2}x)$

b) $f(-x) + 2$

c) $3 - f(x)$



20. Find the vertex, vertex (standard) form,

x-Intercepts and

y-intercepts and

Graph

$$f(x) = 3x^2 - 24x + 36$$

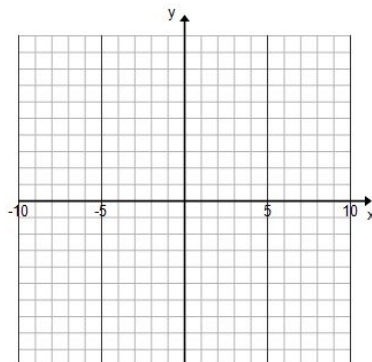
Vertex

Vertex (Standard)

Form

x-Intercepts

y-Intercept



21. Find the following

if $f(x) = \frac{3}{x}$ and $g(x) = \frac{x}{x+3}$

$$f \circ g$$

$$g \circ f$$

$$f - g$$

$$\frac{f}{g}$$