# Arithmetic with Polynomials - Answers 



Graph of $f(x)=x^{2}-7 x+12$

1. What are the $x$-intercepts of the function $f(x)=x^{2}-7 x+12$ ?
Ans: -4 and -3 .
2. Draw a rough graph of the function $f(x)=x^{2}-7 x+12$.

3 . What are the $x$-intercepts of the function $f(x)=x^{3}-2 x^{2}-8 x$ ?
Ans: $-2,0$, and 4 .
4. Draw a rough graph of the function $f(x)=x^{3}-2 x^{2}-8 x$.
5. Find the $x$-intercepts of the polynomial $x^{3}-x^{2}-9 x+9$.
Ans: $3,-3,1$.
6. Find the $y$-intercepts of the polynomial


Graph of $f(x)=x^{3}-2 x^{2}-8 x$
$x^{3}-x^{2}-9 x+9$.
Ans: 9.
7. Find the $x$-intercepts of the polynomial $x^{4}-x^{2}$.
Ans: $-1,0,1$.
8. Do we expect the polynomial $x^{4}-x^{2}$ to be facing up or down? Why?
Ans: Up, because coefficient for $x^{4}$ is positive.
9. Find the $x$-intercepts of the polynomial $-x^{2}+16$.
Ans: $-4,4$.
10. Do we expect the polynomial $-x^{2}+16$ to be facing up or down? Why?
Ans: Down, because coefficient for $x^{2}$ is negative.
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