Name: _____A not 1 Practice Period _____

Problem 1

Polynomial function	Polynomial Equation
$f(x)=2\cdot x^2-x-1$	$2\cdot x^2-x-1=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

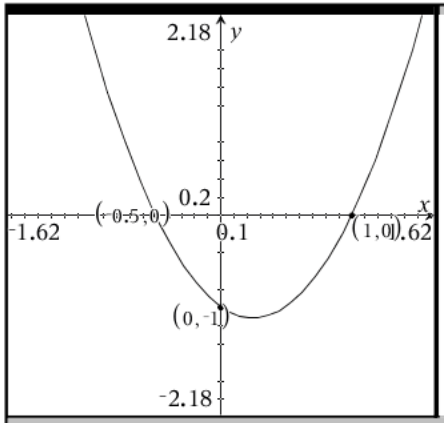
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ○ has GCF (greatest common factor)
- ○ is PST (perfect square trinomial)
- ○ is DOTS (difference of two squares)
- ○ is SOTC (sum of two cubes)
- ○ is DOTC (difference of two cubes)
- ○ is a multiple of one of the above
- ○ cannot be factored
- ○ has only positive solutions
- ○ has only negative solutions
- ○ has both positive and negative solutions
- ○ has zero as a solution
- ○ has imaginary solutions
- ○ has irrational solutions



$2\cdot x^2-x-1=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 2

Polynomial function	Polynomial Equation
$f(x)=6\cdot x^2+15\cdot x+9$	$6\cdot x^2+15\cdot x+9=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

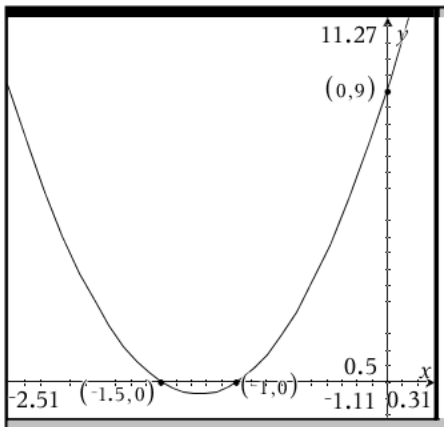
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ○ has GCF (greatest common factor)
- ○ is PST (perfect square trinomial)
- ○ is DOTS (difference of two squares)
- ○ is SOTC (sum of two cubes)
- ○ is DOTC (difference of two cubes)
- ○ is a multiple of one of the above
- ○ cannot be factored
- ○ has only positive solutions
- ○ has only negative solutions
- ○ has both positive and negative solutions
- ○ has zero as a solution
- ○ has imaginary solutions
- ○ has irrational solutions



$6\cdot x^2+15\cdot x+9=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Name: _____A not 1 Practice Period _____

Problem 3

Polynomial function $f(x)=-2\cdot x^2-x+10$

Polynomial Equation $-2\cdot x^2-x+10=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

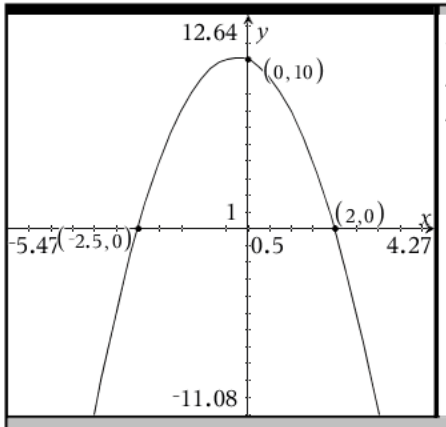
As $x \to -\infty$ $f(x) \to$_____

As $x \to +\infty$ $f(x) \to$_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$-2\cdot x^2-x+10=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 4

Polynomial function $f(x)=2\cdot x^2+11\cdot x+14$

Polynomial Equation $2\cdot x^2+11\cdot x+14=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

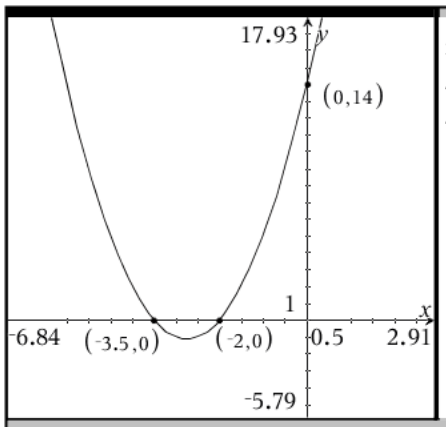
As $x \to -\infty$ $f(x) \to$_____

As $x \to +\infty$ $f(x) \to$_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$2\cdot x^2+11\cdot x+14=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Name: _____A not 1 Practice Period _____

Problem 5

Polynomial function: $f(x)=-6\cdot x^2+16\cdot x+6$

Polynomial Equation: $-6\cdot x^2+16\cdot x+6=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

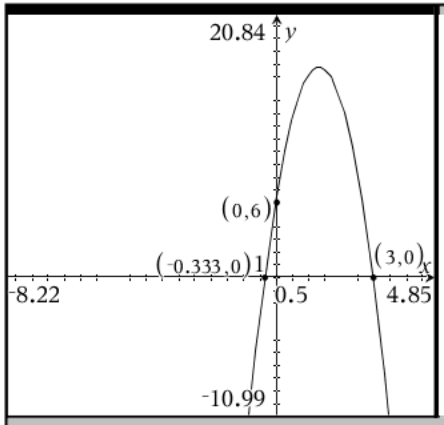
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ○ has GCF (greatest common factor)
- ○ is PST (perfect square trinomial)
- ○ is DOTS (difference of two squares)
- ○ is SOTC (sum of two cubes)
- ○ is DOTC (difference of two cubes)
- ○ is a multiple of one of the above
- ○ cannot be factored
- ○ has only positive solutions
- ○ has only negative solutions
- ○ has both positive and negative solutions
- ○ has zero as a solution
- ○ has imaginary solutions
- ○ has irrational solutions



$-6\cdot x^2+16\cdot x+6=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 6

Polynomial function: $f(x)=3\cdot x^2+11\cdot x+6$

Polynomial Equation: $3\cdot x^2+11\cdot x+6=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

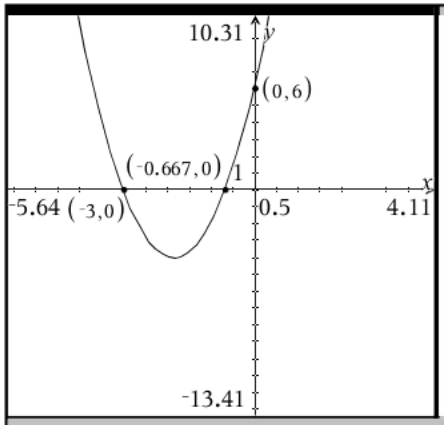
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ○ has GCF (greatest common factor)
- ○ is PST (perfect square trinomial)
- ○ is DOTS (difference of two squares)
- ○ is SOTC (sum of two cubes)
- ○ is DOTC (difference of two cubes)
- ○ is a multiple of one of the above
- ○ cannot be factored
- ○ has only positive solutions
- ○ has only negative solutions
- ○ has both positive and negative solutions
- ○ has zero as a solution
- ○ has imaginary solutions
- ○ has irrational solutions



$3\cdot x^2+11\cdot x+6=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Name: _____A not 1 Practice Period _____

Problem 7

Polynomial function $f(x)=3\cdot x^2-11\cdot x-20$ Polynomial Equation $3\cdot x^2-11\cdot x-20=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

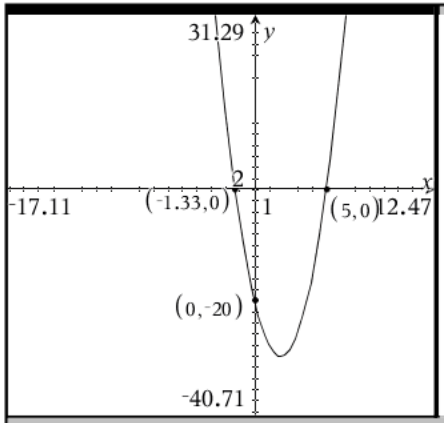
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ○ has GCF (greatest common factor)
- ○ is PST (perfect square trinomial)
- ○ is DOTS (difference of two squares)
- ○ is SOTC (sum of two cubes)
- ○ is DOTC (difference of two cubes)
- ○ is a multiple of one of the above
- ○ cannot be factored
- ○ has only positive solutions
- ○ has only negative solutions
- ○ has both positive and negative solutions
- ○ has zero as a solution
- ○ has imaginary solutions
- ○ has irrational solutions



$3\cdot x^2-11\cdot x-20=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 8

Polynomial function $f(x)=3\cdot x^2+20\cdot x+25$ Polynomial Equation $3\cdot x^2+20\cdot x+25=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

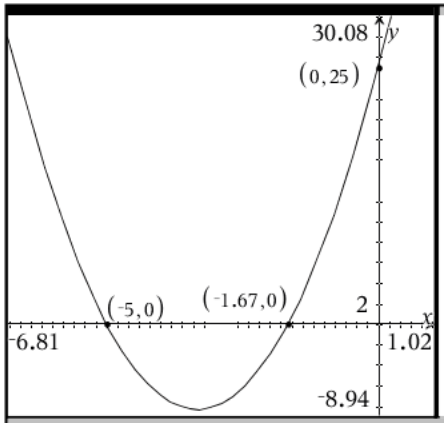
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ○ has GCF (greatest common factor)
- ○ is PST (perfect square trinomial)
- ○ is DOTS (difference of two squares)
- ○ is SOTC (sum of two cubes)
- ○ is DOTC (difference of two cubes)
- ○ is a multiple of one of the above
- ○ cannot be factored
- ○ has only positive solutions
- ○ has only negative solutions
- ○ has both positive and negative solutions
- ○ has zero as a solution
- ○ has imaginary solutions
- ○ has irrational solutions



$3\cdot x^2+20\cdot x+25=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Name: _____A not 1 Practice Period _____

Problem 9

Polynomial function: $f(x)=4\cdot x^2-15\cdot x-4$

Polynomial Equation: $4\cdot x^2-15\cdot x-4=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

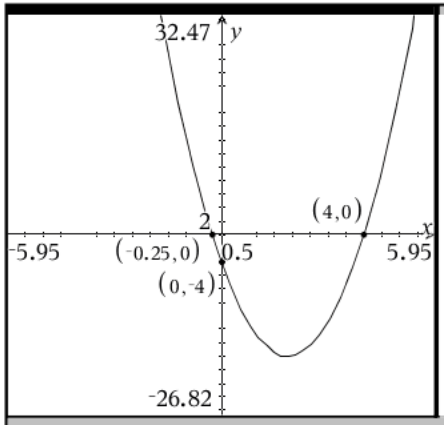
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$4\cdot x^2-15\cdot x-4=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 10

Polynomial function: $f(x)=-8\cdot x^2-38\cdot x-24$

Polynomial Equation: $-8\cdot x^2-38\cdot x-24=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

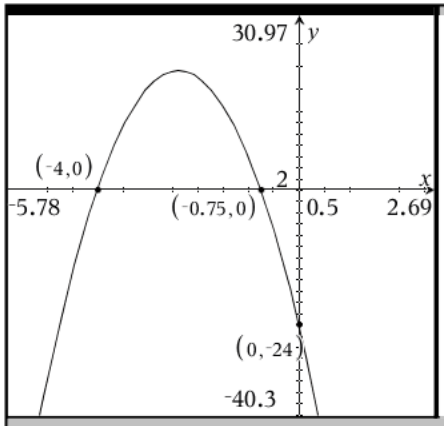
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$-8\cdot x^2-38\cdot x-24=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Name: _____A not 1 Practice Period _____

Problem 11

Polynomial function	Polynomial Equation
$f(x)=8\cdot x^2+14\cdot x+5$	$8\cdot x^2+14\cdot x+5=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

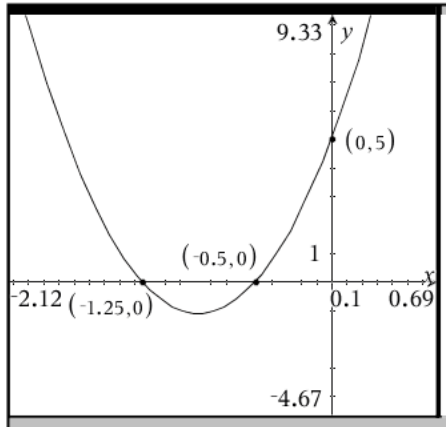
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$8\cdot x^2+14\cdot x+5=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 12

Polynomial function	Polynomial Equation
$f(x)=8\cdot x^2+10\cdot x-7$	$8\cdot x^2+10\cdot x-7=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

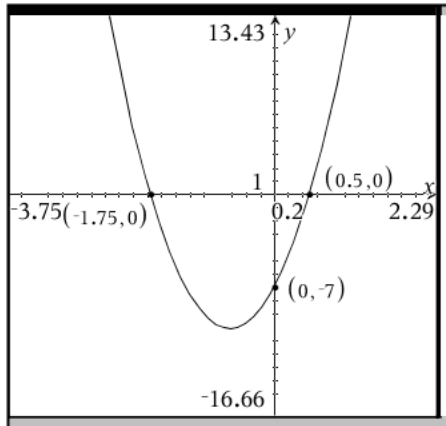
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$8\cdot x^2+10\cdot x-7=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Name: _____A not 1 Practice Period _____

Problem 13

Polynomial function	Polynomial Equation
$f(x)=15\cdot x^2+8\cdot x+1$	$15\cdot x^2+8\cdot x+1=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

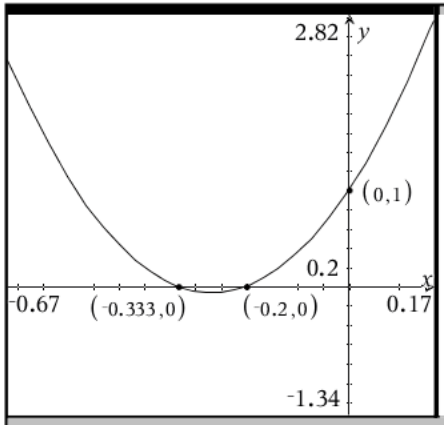
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ can be factored
- ◯ is a multiple of one of the above
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$15\cdot x^2+8\cdot x+1=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 14

Polynomial function	Polynomial Equation
$f(x)=15\cdot x^2+x-2$	$15\cdot x^2+x-2=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

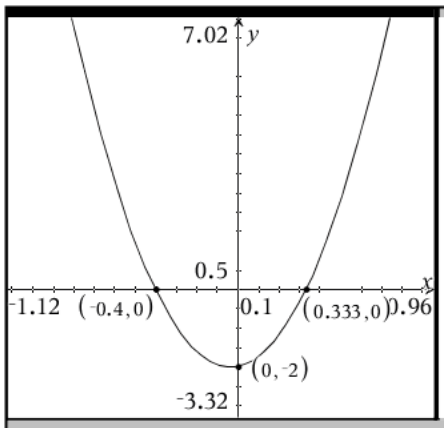
As x →−∞ f(x) →_____

As x →+∞ f(x) →_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$15\cdot x^2+x-2=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Name: _____A not 1 Practice Period _____

Problem 15

Polynomial function Polynomial Equation

$f(x)=20\cdot x^2+17\cdot x+3$ $20\cdot x^2+17\cdot x+3=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

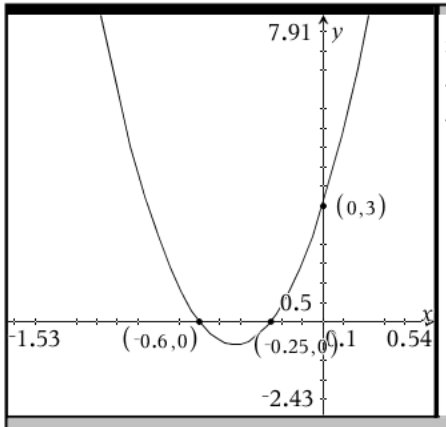
As $x \to -\infty$ $f(x) \to$_____

As $x \to +\infty$ $f(x) \to$_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$20\cdot x^2+17\cdot x+3=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____

Problem 16

Polynomial function Polynomial Equation

$f(x)=-20\cdot x^2-31\cdot x-12$

$-20\cdot x^2-31\cdot x-12=0$

State the number of roots this polynomial MUST have _____

state y intercept _____

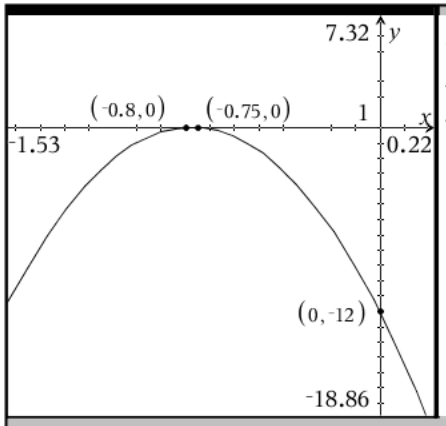
As $x \to -\infty$ $f(x) \to$_____

As $x \to +\infty$ $f(x) \to$_____

Completely factor and solve the given polynomial equation

Mark all that apply

- ◯ has GCF (greatest common factor)
- ◯ is PST (perfect square trinomial)
- ◯ is DOTS (difference of two squares)
- ◯ is SOTC (sum of two cubes)
- ◯ is DOTC (difference of two cubes)
- ◯ is a multiple of one of the above
- ◯ cannot be factored
- ◯ has only positive solutions
- ◯ has only negative solutions
- ◯ has both positive and negative solutions
- ◯ has zero as a solution
- ◯ has imaginary solutions
- ◯ has irrational solutions



$-20\cdot x^2-31\cdot x-12=0$

AC =_____ GCF=_____

ADD or SUBTRACT to get bx?

completely factored form of the polynomial _____

Solutions _____