CH 6 Review Stations

A Station 1 State the Degree, Leading Coefficient, and the End Behavior

1. $y = x^7 - 75x^4 + 3x^2 - 104$

2. $f(x) = -2x^2(x+6)^2(2x+1)(5x-2)^3$

B Station 1 State the Degree, Leading Coefficient, and the End Behavior

1. $y = -27x^6 + 40x^4 - 15x^2 + 90x$

2. $f(x) = x^2(x+6)(5x+1)^3(2x-3)^3$

A Station 2 Find all Real and Imaginary Solutions by factoring

1. $3x^6 + 6x^4 - 189x^2 = 0$

2. $3x^3 + 18x - 5x^2 - 30 = 0$

B Station 2 Find all Real and Imaginary Solutions by factoring

1. $4x^7 - 4x^5 - 48x^3 = 0$

2. $3x^3 + 9x - 4x^2 - 12 = 0$

A Station 3 Find the quotient. Give remainder any way you wish.

$$\frac{5x^4 - 6x^3 + 8x^2 - x + 11}{x+3}$$

B Station 3 Find the quotient. Give remainder any way you wish.

$$\frac{3x^4 + x^3 - 7x^2 + 4x - 6}{x+5}$$

A Station 4 Find each quotient. Give remainder any way you wish.

a) $\dfrac{6x^4 + 18x^3 - 35x^2 - 24x + 36}{3x^2 - 4}$ b) $\dfrac{15x^3 - 14x^2 - 3x + 17}{5x+2}$

B Station 4 Find each quotient. Give remainder any way you wish.

a) $\dfrac{6x^4 + 10x^3 - 23x^2 - 15x + 21}{2x^2 - 3}$ b) $\dfrac{8x^3 + 2x^2 + 25x + 16}{4x+3}$

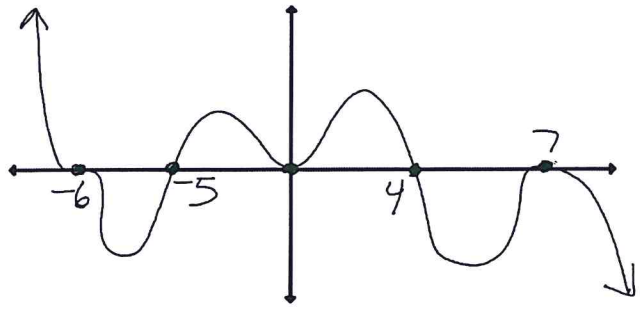
A Station 5 Name each a) by it's degree and b) # of terms

1. $4x$ 2. $6x^3 - 7x + 1$ 3. -105.3 4. $-8x^2 - 13x$

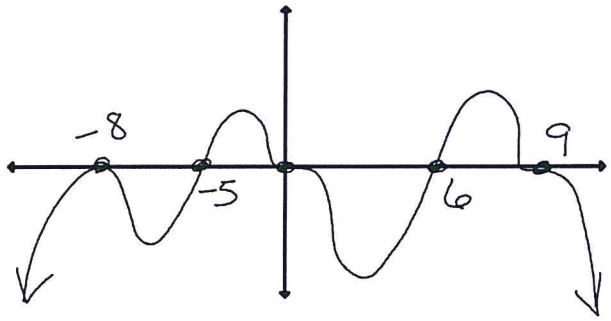
B Station 5 Name each a) by it's degree and b) # of terms

1. $9x^2 - 7x + 145$ 2. 1857 3. $11x^3$ 4. $9x - 3$

A Station 6 Write the equation of this graph.



B Station 6 Write the equation of this graph.



A Station 7 Graph this polynomial. Make sure you show the proper end behavior and shape at each zero.

$y = -x(x+9)^3(x-3)^2(x+2)^2$

B Station 7 Graph this polynomial. Make sure you show the proper end behavior and shape at each zero.

$y = -x^2(x+7)(x-4)^3(x+3)^3$

A Station 8 Graph to find all Absolute Max/Min, Relative Max/Min, and Zeros, if any. Round to the nearest hundredth where necessary.

$f(x) = -x^4 - 6x^3 - 8x^2 + 6x + 9$

B Station 8 Graph to find all Absolute Max/Min, Relative Max/Min, and Zeros, if any. Round to the nearest hundredth where necessary.

$f(x) = x^4 + 3x^3 - 2x^2 - 6x + 1$

A Station 9

1. Is $(x+4)$ a factor of $3x^4+7x^3-6x^2+10x-12$? Explain your answer.

2. Given $(x-2)$ is a factor of $x^3+x^2-24x+36$ use polynomial division to find the other two factors.

3. Find just the remainder: $\dfrac{2x^4+8x^3-10x^2+3x-14}{x+3}$

B Station 9

1. Is $(x+5)$ a factor of $2x^4+10x^3+2x^2+3x-35$? Explain your answer.

2. Given $(x-3)$ is a factor of $x^3-6x^2-19x+84$ use polynomial division to find the other two factors.

3. Find just the remainder: $\dfrac{2x^4+6x^3-11x^2+4x-19}{x+3}$

Alg 2 Ch 6 Fall 2015 In-class Review **Answer Sheet** (A) Name:

Station 1: State the Degree, Leading Coefficient, and End Behavior

1. Deg: LC: End Behavior

2. Deg: LC: End Behavior

Station 2: Find all Real and Imaginary Solutions by factoring.

1.

2.

Station 3: Find the quotient

Station 4: Find the quotient.

a)

b)

Station 5: Name by Degree and # of Terms

1. by Degree: by # Terms

2. by Degree: by # Terms

3. by Degree: by # Terms

4. by Degree: by # Terms

Station 6: Write eq of Polynomial graph

EQ:

Station 7: Graph Polynomial:

Station 8: Graph to find Abs Max/Min, Rel Max/Min, & Zeros, if any

Absolute Max: Absolute Min: Zeros:

Relative Max: Relative Min:

Station 9:

1. Is it a factor? Explain your answer.

2. Given a factor divide to find other two factors: Other two factors:

3. Find just the remainder of a quotient: Remainder =

Alg 2 Ch 6 Fall 2015 In-class Review **Answer Sheet** (B) Name:

Station 1: State the Degree, Leading Coefficient, and End Behavior

1. Deg: LC: End Behavior

2. Deg: LC: End Behavior

Station 2: Find all Real and Imaginary Solutions by factoring.

1.

2.

Station 3: Find the quotient

Station 4: Find the quotient.

a)

b)

Station 5: Name by Degree and # of Terms

1. by Degree: by # Terms
2. by Degree: by # Terms
3. by Degree: by # Terms
4. by Degree: by # Terms

Station 6: Write eq of Polynomial graph

EQ:

Station 7: Graph Polynomial:

Station 8: Graph to find Abs Max/Min, Rel Max/Min, & Zeros, if any

Absolute Max: Absolute Min: Zeros:

Relative Max: Relative Min:

Station 9:

1. Is it a factor? Explain your answer.
2. Given a factor divide to find other two factors: Other two factors:
3. Find just the remainder of a quotient: Remainder =

Alg 2 Ch 6 Fall 2015 In-class Review **Answer Sheet** (A) Name: Answers

Station 1: State the Degree, Leading Coefficient, and End Behavior

1. Deg: 7 pos odd LC: 1 End Behavior (↙, ↗)
2. Deg: 8 NEG EVEN LC: −500 End Behavior (↙, ↘)

Station 2: Find all Real and Imaginary Solutions by factoring.

1. $0, \pm\sqrt{7}, \pm 3i$
2. $\frac{5}{3}, \pm i\sqrt{6}$

Station 3: Find the quotient

$5x^3 - 21x^2 + 71x - 214$ $R = 653$

Station 4: Find the quotient.

a) $2x^2 + 6x - 9$ b) $3x^2 - 4x + 1$ $R = 15$

Station 5: Name by Degree and # of Terms

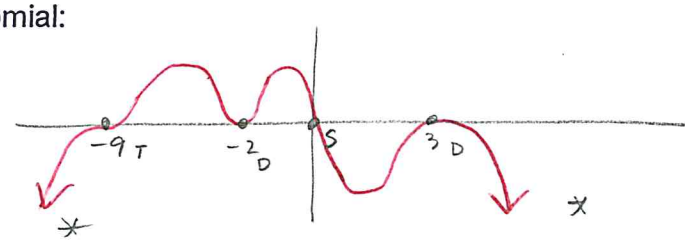
1. by Degree: Linear by # Terms Monomial
2. by Degree: cubic by # Terms trinomial
3. by Degree: Constant by # Terms Monomial
4. by Degree: Quadratic by # Terms Binomial

Station 6: Write eq of Polynomial graph

EQ: $y = -x^2(x+6)^3(x+5)(x-4)(x-7)^2$

Station 7: Graph Polynomial:

Neg even



Station 8: Graph to find Abs Max/Min, Rel Max/Min, & Zeros, if any

Absolute Max: 9.91 Absolute Min: None Zeros: −3, −1, 1

Relative Max: 0 Relative Min: −3.23

Station 9:

1. Is it a factor? Explain your answer. No Remainder = 172 NOT zero
2. Given a factor divide to find other two factors: Other two factors: $(x-3)(x+6)$
3. Find just the remainder of a quotient: Remainder = −167

Alg 2 Ch 6 Fall 2015 In-class Review **Answer Sheet** B Name: Answers

Station 1: State the Degree, Leading Coefficient, and End Behavior

1. Deg: 6 Neg Even LC: -27 End Behavior $(\swarrow, \searrow)$
2. Deg: 9 neg odd LC: -1000 End Behavior $(\uparrow, \searrow)$

Station 2: Find all Real and Imaginary Solutions by factoring.

1. $0, \pm 2, \pm i\sqrt{3}$
2. $\frac{4}{3}, \pm i\sqrt{3}$

Station 3: Find the quotient

$3x^3 - 14x^2 + 63x - 311$ $R = 1549$

Station 4: Find the quotient.

a) $3x^2 + 5x - 7$ b) $2x^2 - x + 7$ $R = -5$

Station 5: Name by Degree and # of Terms

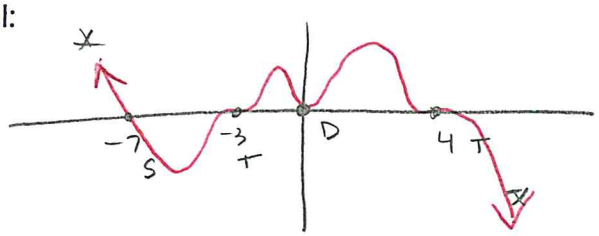
1. by Degree: Quadratic by # Terms Trinomial
2. by Degree: Constant by # Terms Monomial
3. by Degree: Cubic by # Terms Monomial
4. by Degree: Linear by # Terms Binomial

Station 6: Write eq of Polynomial graph

EQ: $y = -x^3(x+8)^2(x+5)(x-6)(x-9)^3$

Station 7: Graph Polynomial:

Neg odd



Station 8: Graph to find Abs Max/Min, Rel Max/Min, & Zeros, if any

Absolute Max: NONE Absolute Min: -4.41 Zeros: $-2.95, -1.56, 0.16, 1.35$

Relative Max: 3.43 Relative Min: -3.19

Station 9:

1. Is it a factor? Explain your answer. Yes → No remainder
2. Given a factor divide to find other two factors: Other two factors: $(x-7)(x+4)$
3. Find just the remainder of a quotient: Remainder = -130