

## Quiz 8

### Quiz ID: 101

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{5x^3 + 13x^2 - 12x - 12}{-x - 3} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -4x^3 - x^2 - 4x - 3$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 + 5i$$

$$z_2 = -5 - 2i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 13x^2 + 57x - 85$$

## Quiz 8

### Quiz ID: 102

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-15x^3 - 28x^2 + 2x + 5}{-5x - 1} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 - 5i$$

$$z_2 = -1 - 2i$$

4. Given that  $x = 3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - x^2 + 11x - 51$$

## Quiz 8

### Quiz ID: 103

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-8x^3 + 12x^2 - 12x + 1}{-4x + 2} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 + 4i$$

$$z_2 = 2 - 3i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 3x^2 + 9x + 13$$

## Quiz 8

### Quiz ID: 104

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-12x^3 + 11x^2 - 11x + 27}{-4x + 5} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -5x^3 - x^2 - x + 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 - 5i$$

$$z_2 = 3 - 4i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 8x^2 + 36x - 80$$



## Quiz 8

### Quiz ID: 105

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{8x^3 + 8x^2 - 10x - 4}{4x + 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -1 + 5i$$

$$z_2 = 1 - 3i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 2x^2 + 10x - 136$$

## Quiz 8

### Quiz ID: 106

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{6x^3 + 8x^2 - 13x - 12}{-2x - 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 2 - 5i$$

$$z_2 = -5 - 1i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 6x^2 + 16x + 16$$

## Quiz 8

### Quiz ID: 107

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-16x^3 - 16x^2 - 16x + 1}{4x} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 4 - 4i$$

$$z_2 = -4 - 4i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 9x^2 + 28x - 40$$

## Quiz 8

### Quiz ID: 108

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{9x^3 + 12x^2 + 13x + 8}{-3x - 3} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 3x^3 + 4x^2 + 5x + 1$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 + 1i$$

$$z_2 = 4 - 3i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 4x^2 + 6x + 36$$



## Quiz 8

### Quiz ID: 109

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{5x^3 + 25x^2 - 18x - 4}{-5x} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 + 3i$$

$$z_2 = 5 + 3i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 11x^2 + 48x - 90$$

## Quiz 8

### Quiz ID: 110

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{x^3 - 9x - 2}{x + 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 2i$$

$$z_2 = -1 + 2i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 5x^2 - 250$$

## Quiz 8

### Quiz ID: 111

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{2x^3 - 8x^2 + 3}{2x} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 2i$$

$$z_2 = -2 + 5i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 15x^2 + 84x + 170$$

## Quiz 8

### Quiz ID: 112

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-25x^3 - 5x^2 - 11x + 3}{-5x + 2} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -4x^3 + 5x^2 - 4x - 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 5i$$

$$z_2 = 3 + 3i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 7x^2 + 24x + 18$$



## Quiz 8

### Quiz ID: 113

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-x^3 - 6x^2 - 3x + 14}{-x - 3} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 1i$$

$$z_2 = 3 - 1i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 7x^2 - 4x + 78$$

## Quiz 8

### Quiz ID: 114

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{10x^3 + 5x^2 - 43x + 30}{5x - 5} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -3x^3 - 2x^2 - 2x - 1$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 5 + 2i$$

$$z_2 = -4 + 1i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - x^2 - 15x - 25$$

## Quiz 8

### Quiz ID: 115

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{8x^3 + 8x^2 - 6x - 1}{-4x - 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 5x^3 + 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 + 5i$$

$$z_2 = -2 - 2i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 5x^2 + 250$$

## Quiz 8

### Quiz ID: 116

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{12x^3 + 8x^2 - x - 3}{-3x - 2} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -2x^3 - 5x^2 + 3x - 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 2i$$

$$z_2 = 4 - 4i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 4x^2 + 9x + 164$$



## Quiz 8

### Quiz ID: 117

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-2x^3 + 5x^2 + 28x + 4}{2x + 5} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 - 1i$$

$$z_2 = -3 - 1i$$

4. Given that  $x = 2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 2x^2 + 12x - 40$$

## Quiz 8

### Quiz ID: 118

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{25x^3 + 10x^2 - 28x}{-5x + 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -1 + 1i$$

$$z_2 = -4 - 1i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 11x + 20$$

## Quiz 8

### Quiz ID: 119

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{x^3 - x^2 + 8x + 2}{-x - 1} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 2x^3 + 4x^2 + 2x$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 - 3i$$

$$z_2 = -5 - 2i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 6x^2 + 10x + 200$$

## Quiz 8

### Quiz ID: 120

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-3x^3 + 3x^2 + 7x + 3}{-3x} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -2x^3 - 4x^2 - x - 3$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 - 4i$$

$$z_2 = -5 + 3i$$

4. Given that  $x = 2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 4x^2 + 14x - 20$$



## Quiz 8

### Quiz ID: 121

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{x^3 + x^2 - 2}{x} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 3i$$

$$z_2 = 4 + 1i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 11x^2 + 36x + 26$$

## Quiz 8

### Quiz ID: 122

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{12x^3 - 10x^2 + 7x - 4}{-3x + 1} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 4x^3 - x^2 - 3x - 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 + 2i$$

$$z_2 = -1 - 3i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 8x^2 + 9x + 58$$

## Quiz 8

### Quiz ID: 123

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-20x^3 - 4x^2 - 4x - 1}{-4x} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 3x^3 + 3x^2 + 2x + 1$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 - 2i$$

$$z_2 = 4 + 3i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 3x^2 + 50$$

## Quiz 8

### Quiz ID: 124

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{12x^3 + 11x^2 - 16x + 8}{-3x + 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 4x^3 - 2x^2 + 5x + 1$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 5 - 1i$$

$$z_2 = -5 + 1i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 5x^2 + 12x + 18$$



## Quiz 8

### Quiz ID: 125

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{15x^3 + 5x^2 - 28x - 13}{5x + 5} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 - 2i$$

$$z_2 = -5 - 5i$$

4. Given that  $x = 1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 11x^2 + 44x - 34$$

## Quiz 8

### Quiz ID: 126

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-15x^3 - 14x^2 + 3x + 1}{-3x - 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 + 5i$$

$$z_2 = -1 + 2i$$

4. Given that  $x = 3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 7x^2 + 11x - 123$$

## Quiz 8

### Quiz ID: 127

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{6x^3 - 11x^2 + 3x + 3}{2x - 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 5 + 5i$$

$$z_2 = 4 + 2i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 7x^2 + 36x + 130$$

## Quiz 8

### Quiz ID: 128

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{2x^3 - 8x^2 + 13x - 7}{-2x + 2} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 5x^3 - 2x - 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 5i$$

$$z_2 = 3 + 3i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 4x^2 + 14x + 20$$



## Quiz 8

### Quiz ID: 129

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-4x^3 + 20x^2 - 20x - 1}{-x + 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 2x^3 + 5x^2 - 5x - 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 + 2i$$

$$z_2 = 1 + 4i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 5x^2 + 17x + 123$$

## Quiz 8

### Quiz ID: 130

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{15x^3 - 23x^2 - 3x + 15}{-3x + 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 + 3i$$

$$z_2 = 1 + 3i$$

4. Given that  $x = 3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 11x^2 + 49x - 75$$

## Quiz 8

### Quiz ID: 131

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{20x^3 + 41x^2 + 15x - 6}{-4x - 5} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 - 3i$$

$$z_2 = 2 - 5i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 5x^2 + 17x + 13$$

## Quiz 8

### Quiz ID: 132

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{6x^3 + 20x^2 + 17x - 2}{-3x - 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -2x^3 - 4x^2 + 5x - 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 - 4i$$

$$z_2 = 4 + 4i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 13x^2 + 80x + 150$$



## Quiz 8

### Quiz ID: 133

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-6x^3 + 5x^2 + 4x - 3}{2x - 1} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 - 4i$$

$$z_2 = 3 - 3i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 5x^2 + 8x + 96$$

## Quiz 8

### Quiz ID: 134

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-9x^3 + 9x^2 - 9x + 15}{3x - 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 - 1i$$

$$z_2 = -1 + 5i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 12x^2 + 52x - 80$$

## Quiz 8

### Quiz ID: 135

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{6x^3 - 2x^2 - 9x - 16}{-2x + 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 5 - 4i$$

$$z_2 = -5 - 5i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 12x^2 + 73x + 164$$

## Quiz 8

### Quiz ID: 136

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-4x^3 - 4x^2 + 3x - 27}{2x + 5} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -5x^3 - x^2 - 3$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 2 + 5i$$

$$z_2 = -1 - 4i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 15x^2 + 76x + 130$$



## Quiz 8

### Quiz ID: 137

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-9x^3 + 3x^2 + 14x - 17}{3x - 3} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -5x^3 - 2x^2 - 5x - 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 + 3i$$

$$z_2 = -1 - 4i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 8x^2 + 30x + 100$$

## Quiz 8

### Quiz ID: 138

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{20x^3 - 20x^2 + 19x + 5}{-5x} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 - 1i$$

$$z_2 = 5 + 2i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - x^2 + 15x + 17$$

## Quiz 8

### Quiz ID: 139

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-9x^3 + 9x^2 + 4x - 7}{3x - 2} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -3x^3 - 2x^2 - 5x + 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 1 - 2i$$

$$z_2 = 2 + 1i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 7x^2 + 17x + 25$$

## Quiz 8

### Quiz ID: 140

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{3x^3 + 5x^2 - 5x - 3}{-x - 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 3 - 2i$$

$$z_2 = 5 - 4i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 3x^2 + 16x + 102$$



## Quiz 8

### Quiz ID: 141

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-15x^3 + 17x^2 + 3x - 8}{3x - 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 - 4i$$

$$z_2 = 2 + 5i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 2x^2 - 14x + 40$$

## Quiz 8

### Quiz ID: 142

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{12x^3 - 9x^2 - 16x - 5}{-4x - 1} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -x^3 + x^2 + 5x - 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 - 1i$$

$$z_2 = 4 - 5i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 4x^2 + 6x + 36$$

## Quiz 8

### Quiz ID: 143

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-25x^3 + 10x^2 - 16x + 5}{-5x + 2} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -x^3 + 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 4 - 2i$$

$$z_2 = 2 + 5i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 5x^2 - 4x + 60$$

## Quiz 8

### Quiz ID: 144

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{16x^3 + 24x^2 - 4x - 19}{4x + 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 3x^3 + 4x^2 - 4x - 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 4 + 1i$$

$$z_2 = -5 + 2i$$

4. Given that  $x = 1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 9x^2 + 40x - 32$$



## Quiz 8

### Quiz ID: 145

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{25x^3 + 15x^2 + 8x + 6}{5x + 2} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 - 5i$$

$$z_2 = -2 + 2i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 9x^2 + 49x + 41$$

## Quiz 8

### Quiz ID: 146

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{4x^3 - 18x^2 + 13x - 3}{x - 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 + 4i$$

$$z_2 = -4 + 4i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 4x^2 - 7x - 100$$

## Quiz 8

### Quiz ID: 147

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{20x^3 + 7x^2 + 9x}{-4x + 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 4 + 2i$$

$$z_2 = -1 + 1i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 11x^2 + 64x + 170$$

## Quiz 8

### Quiz ID: 148

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-5x^3 - 17x + 23}{5x - 5} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -4x^3 - 4x - 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 1 - 1i$$

$$z_2 = -1 - 1i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 6x^2 + 16x + 16$$



## Quiz 8

### Quiz ID: 149

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{3x^3 - 7x^2 - 8x + 8}{x - 3} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 3x^3 + x^2 - 5x - 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -1 + 2i$$

$$z_2 = -5 + 5i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 8x^2 + 46x + 68$$

## Quiz 8

### Quiz ID: 150

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{15x^3 - 17x^2 + 8x - 24}{-3x + 4} =$$

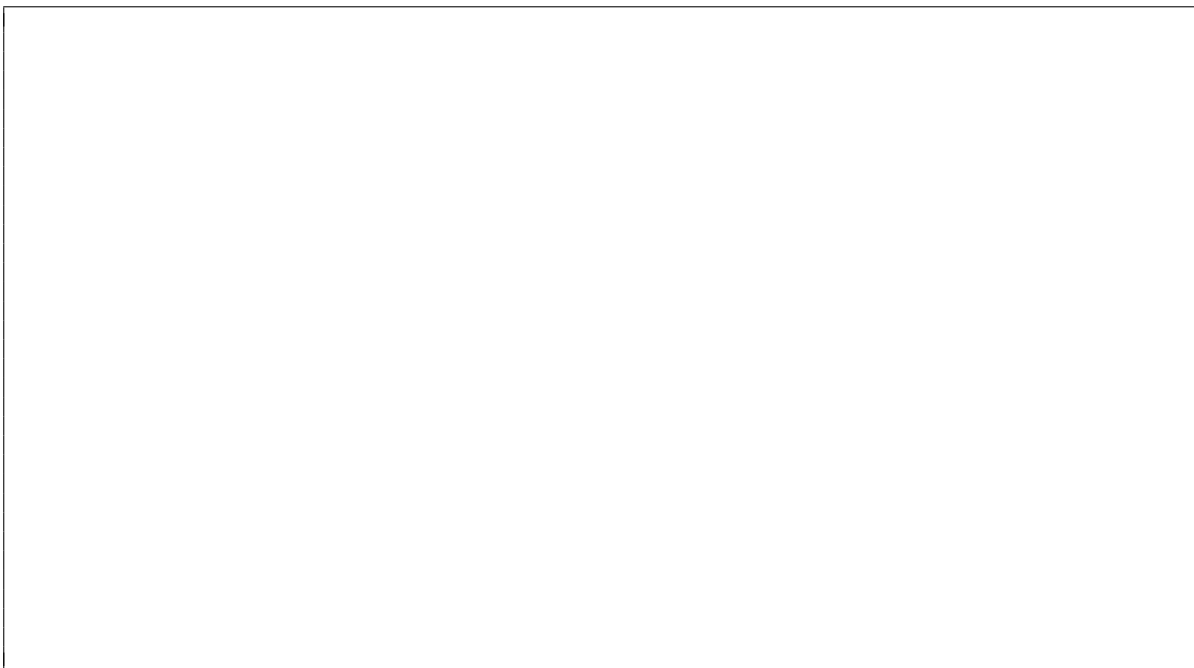
2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -x^3 - x^2 + 5x + 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

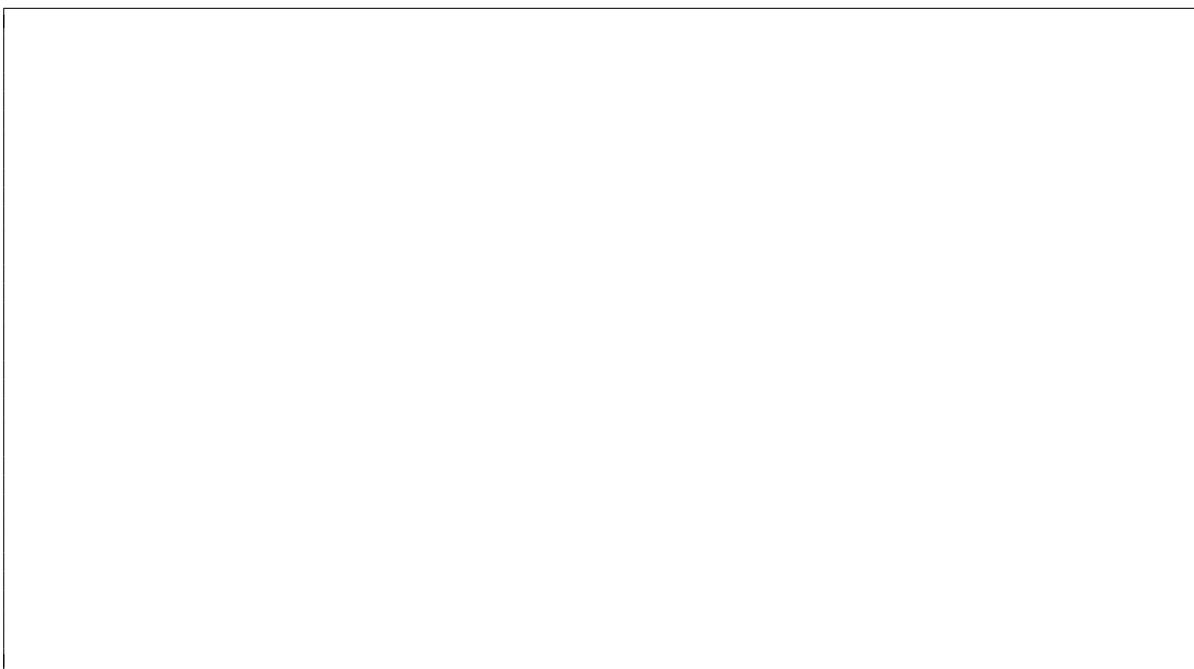
$$z_1 = 3 - 5i$$

$$z_2 = -3 + 3i$$



4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 2x^2 - 3x + 20$$



## Quiz 8

### Quiz ID: 151

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-10x^3 + 15x^2 + 15x - 1}{-5x - 5} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 2 - 5i$$

$$z_2 = 4 - 1i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 12x^2 + 52x + 80$$

## Quiz 8

### Quiz ID: 152

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{15x^3 + 26x^2 + 17x + 15}{-3x - 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 5 + 5i$$

$$z_2 = 3 - 3i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 3x^2 - 5x - 25$$



## Quiz 8

### Quiz ID: 153

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-4x^3 - 8x^2 + 4x + 4}{-2x} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -3x^3 - x^2 - x - 3$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 1 - 3i$$

$$z_2 = -1 + 2i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 3x^2 + x - 205$$

## Quiz 8

### Quiz ID: 154

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-2x^3 + 5x^2 - 12x + 5}{2x - 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 + 1i$$

$$z_2 = -1 - 1i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 4x^2 + 9x - 164$$

## Quiz 8

### Quiz ID: 155

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-16x^3 + 16x^2 + 13x + 4}{-4x} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = x^3 - 2x^2 - x - 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 - 2i$$

$$z_2 = 2 + 4i$$

4. Given that  $x = 1$  is a root of  $f(x)$ , find the other two roots.

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

## Quiz 8

### Quiz ID: 156

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{16x^3 - 9x - 9}{-4x + 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 5x^3 + x^2 + 4x + 3$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 - 1i$$

$$z_2 = 3 - 3i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 4x + 80$$



## Quiz 8

### Quiz ID: 157

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{12x^3 - 11x^2 + 5x - 3}{-4x + 1} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -5x^3 + 4x^2 + x + 2$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 - 2i$$

$$z_2 = -1 - 5i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 14x^2 + 74x - 136$$

## Quiz 8

### Quiz ID: 158

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{9x^3 - 3x^2 - 22x + 4}{-3x + 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 4x^3 - 3x^2 - x - 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 2 - 5i$$

$$z_2 = 2 - 4i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 13x^2 + 71x + 123$$

## Quiz 8

### Quiz ID: 159

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-3x^3 - 11x^2 + 18x + 18}{-x - 5} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -4x^3 + 5x^2 - 4x - 3$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 + 2i$$

$$z_2 = 5 - 4i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 5x^2 - 9x + 205$$

## Quiz 8

### Quiz ID: 160

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{4x^3 + 12x^2 + 15x + 6}{-4x - 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -1 + 2i$$

$$z_2 = 3 + 4i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 3x^2 - 23x - 85$$



## Quiz 8

### Quiz ID: 161

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-12x^3 + 11x^2 - 7x + 22}{4x - 5} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 - 3i$$

$$z_2 = -2 - 4i$$

4. Given that  $x = 2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 8x^2 + 46x - 68$$

## Quiz 8

### Quiz ID: 162

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-3x^3 + 9x + 3}{-3x} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 4 + 1i$$

$$z_2 = -3 + 2i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 10x^2 + 37x - 52$$

## Quiz 8

### Quiz ID: 163

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{12x^3 - 18x^2 + 7x + 3}{4x - 2} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 1 + 2i$$

$$z_2 = 1 - 5i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 5x^2 + 8x + 96$$

## Quiz 8

### Quiz ID: 164

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-20x^3 + 3x^2 + 23x - 7}{4x - 3} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 + 2i$$

$$z_2 = -4 - 3i$$

4. Given that  $x = 1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 7x^2 + 24x - 18$$



## Quiz 8

### Quiz ID: 165

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{20x^3 - 11x^2 - 28x + 18}{-5x + 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 3x^3 - x - 2$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 - 2i$$

$$z_2 = -5 + 5i$$

4. Given that  $x = 1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 7x^2 + 19x - 13$$

## Quiz 8

### Quiz ID: 166

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-10x^3 - 14x - 16}{-5x - 5} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 3x^3 - x^2 - 5x + 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 - 4i$$

$$z_2 = -4 + 2i$$

4. Given that  $x = 1$  is a root of  $f(x)$ , find the other two roots.

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

## Quiz 8

### Quiz ID: 167

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-20x^3 + 15x^2 - 11x + 3}{-5x} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -4x^3 + 3x - 3$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 + 1i$$

$$z_2 = 3 - 3i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - x^2 - 12x - 40$$

## Quiz 8

### Quiz ID: 168

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-5x^3 - 19x^2 - 5x - 21}{x + 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 + 2i$$

$$z_2 = -1 + 4i$$

4. Given that  $x = 4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 2x^2 - 6x - 72$$



## Quiz 8

### Quiz ID: 169

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{6x^3 + 19x^2 + 9x - 4}{-2x - 5} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 5 - 5i$$

$$z_2 = 1 - 3i$$

4. Given that  $x = 3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 5x^2 + 17x - 123$$

## Quiz 8

### Quiz ID: 170

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-8x^3 + 4x^2 - 13x - 3}{4x} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 3x^3 + 5x^2 + 2x + 4$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -4 + 2i$$

$$z_2 = 3 + 2i$$

4. Given that  $x = -3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - x^2 + x + 39$$

## Quiz 8

### Quiz ID: 171

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{5x^3 + 4x^2 - 13x + 6}{-5x + 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 4x^3 + x^2 - 3x - 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -1 + 1i$$

$$z_2 = -1 - 2i$$

4. Given that  $x = 5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 9x^2 + 25x - 25$$

## Quiz 8

### Quiz ID: 172

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{3x^3 - 3x^2 - 4x - 12}{-x + 2} =$$

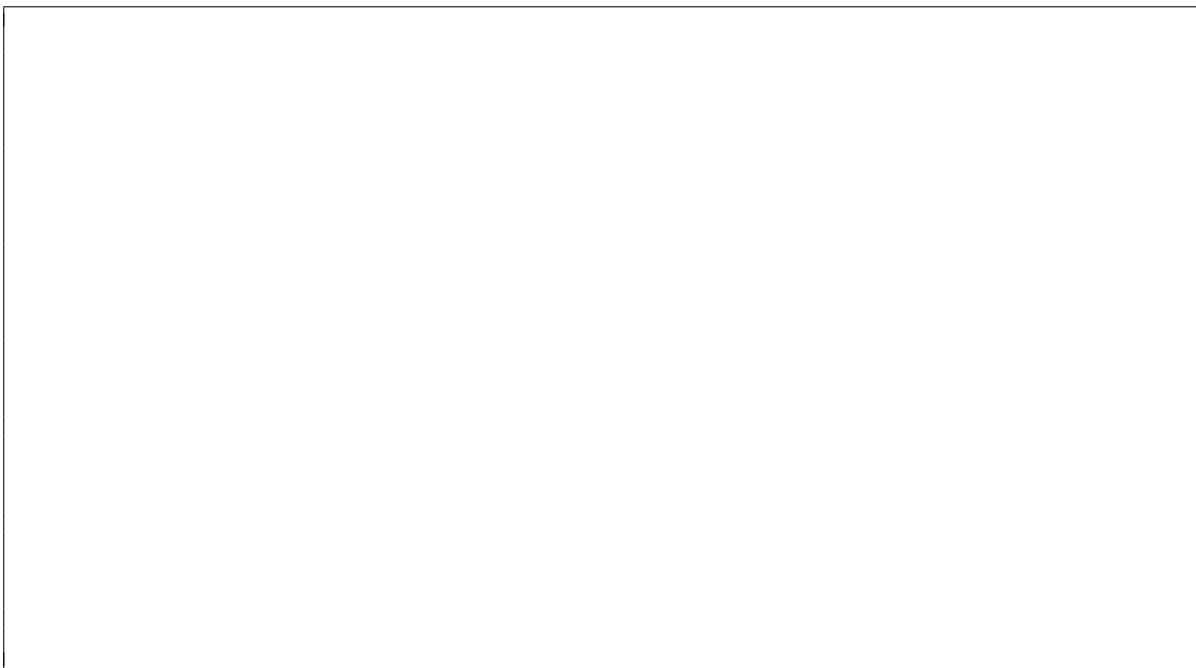
2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

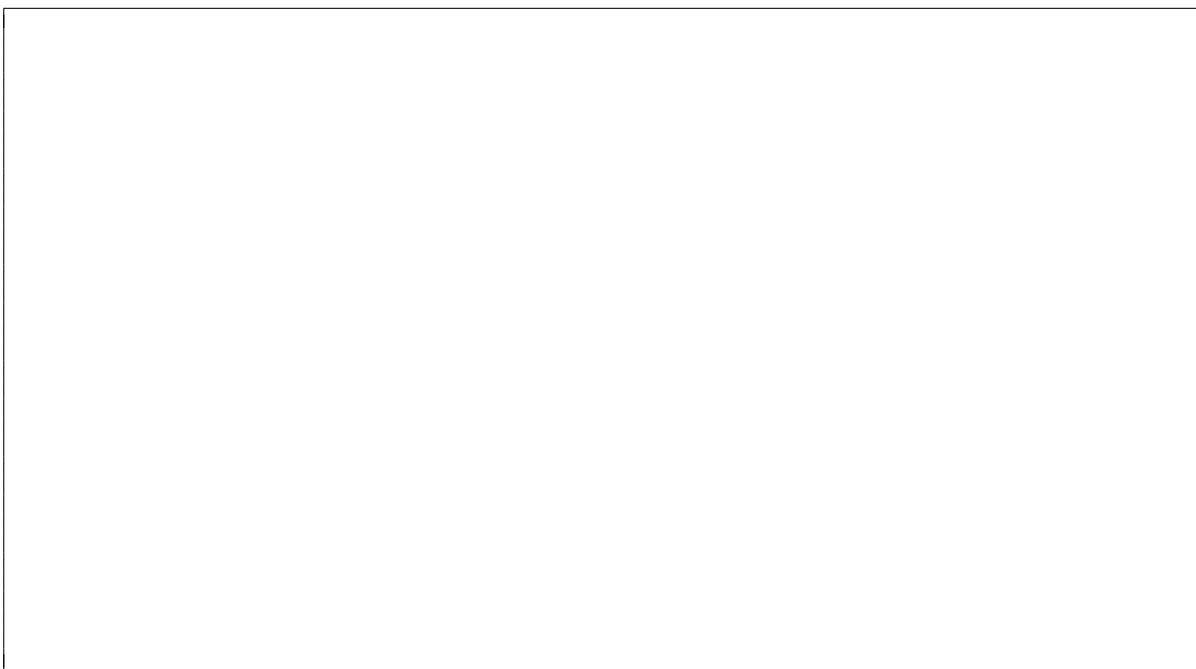
$$z_1 = 1 - 1i$$

$$z_2 = 2 - 4i$$



4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 7x^2 + 20x + 50$$





## Quiz 8

### Quiz ID: 173

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-10x^3 - 23x^2 - 13x - 3}{5x + 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 + 1i$$

$$z_2 = 5 - 2i$$

4. Given that  $x = -4$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 10x^2 + 42x + 72$$

## Quiz 8

### Quiz ID: 174

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-5x^3 - 11x^2 + 2x + 13}{5x - 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -2 + 4i$$

$$z_2 = -5 - 1i$$

4. Given that  $x = 2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 6x^2 + 9x - 50$$

## Quiz 8

### Quiz ID: 175

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{5x^3 + 9x^2 - 12x + 2}{-5x + 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 - 4i$$

$$z_2 = 2 + 4i$$

4. Given that  $x = 3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 11x^2 + 41x - 51$$

## Quiz 8

### Quiz ID: 176

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{10x^3 + 20x^2 - 6x - 23}{-2x - 4} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = 5x^3 + 4x - 2$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 - 2i$$

$$z_2 = 4 + 2i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 11x^2 + 60x + 50$$



## Quiz 8

### Quiz ID: 177

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-5x^3 - 5x^2 + x - 3}{x} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

$$f(x) = -4x^3 + x^2 + 4x + 5$$

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = 4 - 4i$$

$$z_2 = 2 + 4i$$

4. Given that  $x = -2$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 8x^2 + 37x + 50$$

## Quiz 8

### Quiz ID: 178

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{x^3 + 3x^2 + x - 4}{x - 1} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -3 + 2i$$

$$z_2 = -3 + 4i$$

4. Given that  $x = 3$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - 13x^2 + 80x - 150$$

## Quiz 8

### Quiz ID: 179

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-15x^3 + 9x^2 + 21x - 8}{-3x + 3} =$$

2. Calculate  $f(1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -1 + 3i$$

$$z_2 = -4 - 1i$$

4. Given that  $x = -1$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 - x^2 + 15x + 17$$

## Quiz 8

### Quiz ID: 180

English Name: \_\_\_\_\_ Chinese Name: \_\_\_\_\_

1. Calculate the following division:

$$\frac{-20x^3 + 20x^2 - 19x + 19}{-4x + 4} =$$

2. Calculate  $f(-1)$  using Synthetic Division and the Remainder Theorem, where

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

3. Calculate  $z_1 + z_2$ ,  $z_1 \cdot z_2$  and  $\frac{z_1}{z_2}$ , where:

$$z_1 = -5 - 1i$$

$$z_2 = -5 + 1i$$

4. Given that  $x = -5$  is a root of  $f(x)$ , find the other two roots.

$$f(x) = x^3 + 15x^2 + 76x + 130$$