==========PROBLEM 1==========

252/198 = 1 R 54

198/54 = 3 R 36

54/36 = 1 R 18

36/18 = 2 R 0

gcd(252,198) = 18

14/6 = 2 R 2

6/2 = 3 R 0

gcd(6,14) = 2

36/24 = 1 R 12

24/12 = 2 R 0

gcd(24,36) = 12

42/12 = 3 R 6

12/6 = 2 R 0

gcd(12,42) = 6

252/198 = 1 R 54

198/54 = 3 R 36

54/36 = 1 R 18

36/18 = 2 R 0

gcd(252,198) = 18

==========PROBLEM 2==========

Forward Steps

662 = 414 * 1 + 248

414 = 248 * 1 + 166

248 = 166 * 1 + 82

166 = 82 * 2 + 2

82 = 2 * 41 + 0

Backward steps:

2 = 1 * 166 - 2 * 82

2 = 1 * 166 - 2 * (248 - 1 * 166)

2 = 2 * 166 - 4 * 248

2 = 2 * (414 - 1 * 166) - 4 * 248

2 = 3 * 248 - 8 * 414

2 = 3 * 248 - 8 * (662 - 1 * 248)

2 = 16 * 662 - 4 * 414

Forward Steps

14 = 6 * 2 + 2

6 = 2 * 3 + 0

Backward steps:

2 = 2 * 6 - 1 * 14

Forward Steps

36 = 24 * 1 + 12

24 = 12 * 2 + 0

Backward steps:

12 = 1 * 24 - 1 * 36

Forward Steps

42 = 12 * 3 + 6

12 = 6 * 2 + 0

Backward steps:

6 = 3 * 12 - 1 * 42

Forward Steps

252 = 198 * 1 + 54

198 = 54 * 3 + 36

54 = 36 * 1 + 18

36 = 18 * 2 + 0

Backward steps:

18 = 1 * 54 - 1 * 36

18 = 1 * 54 - 1 * (198 - 3 * 54)

18 = 4 * 54 - 2 * 198

18 = 4 * (252 - 1 * 54) - 2 * 198

18 = 4 * 252 - 5 * 198

==========PROBLEM 3==========

Quotients (q values): q1 = 0, q2 = 1, q3 = 1, q4 = 1, q5 = 2, q6 = 41

Calculations for s values:

s0 = 1 - 0 * 0 = 8

s1 = 0 - 1 * 1 = 331

s2 = 0 - 0 * 1 = 331

s3 = 0 - 0 * 1 = 331

s4 = 0 - 0 * 2 = 662

s5 = 0 - 0 * 41 = 13571

Calculations for t values:

t0 = 0 - 1 * 0 = -5

t1 = 1 - 0 * 1 = -206

t2 = 1 - 1 * 1 = -206

t3 = 1 - 1 * 1 = -206

t4 = 1 - 1 * 2 = -413

t5 = 1 - 1 * 41 = -8486

gcd(414, 662) = 2 = 8*414 + -5*662

Quotients (q values): q1 = 0, q2 = 2, q3 = 3

Calculations for s values:

s0 = 1 - 0 * 0 = -2

s1 = 0 - 1 * 2 = -14

s2 = 0 - 0 * 3 = -21

Calculations for t values:

t0 = 0 - 1 * 0 = 1

t1 = 1 - 0 * 2 = 7

t2 = 1 - 1 * 3 = 10

gcd(6, 14) = 2 = -2*6 + 1*14

Quotients (q values): q1 = 0, q2 = 1, q3 = 2

Calculations for s values:

s0 = 1 - 0 * 0 = -1

s1 = 0 - 1 * 1 = -3

s2 = 0 - 0 * 2 = -6

Calculations for t values:

t0 = 0 - 1 * 0 = 1

t1 = 1 - 0 * 1 = 3

t2 = 1 - 1 * 2 = 5

gcd(24, 36) = 12 = -1*24 + 1*36

Quotients (q values): q1 = 0, q2 = 3, q3 = 2

Calculations for s values:

s0 = 1 - 0 * 0 = -3

s1 = 0 - 1 * 3 = -21

s2 = 0 - 0 * 2 = -14

Calculations for t values:

t0 = 0 - 1 * 0 = 1

t1 = 1 - 0 * 3 = 7

t2 = 1 - 1 * 2 = 5

gcd(12, 42) = 6 = -3*12 + 1*42

Quotients (q values): q1 = 1, q2 = 3, q3 = 1, q4 = 2

Calculations for s values:

s0 = 1 - 0 * 1 = 4

s1 = 0 - 1 * 3 = 33

s2 = 0 - 0 * 1 = 11

s3 = 0 - 0 * 2 = 22

Calculations for t values:

t0 = 0 - 1 * 1 = -5

t1 = 1 - 0 * 3 = -41

t2 = 1 - 1 * 1 = -13

t3 = 1 - 1 * 2 = -27

gcd(252, 198) = 18 = 4*252 + -5*198