Worksheet

05/07/2020

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Problem quickname: 2001

1)

Determine the greatest common divisor (GCD). Use the Euclidean Algorithm as shown in the example. Write down the computational steps in detail.

a) Number 1: 78, Number 2: 20. Determine the larger number of these: 78.

Round 1:

Determine the quotient and remainder of 78 : 20.

We have $78 = 3 \cdot 20 + 18$, so the quotient is 3, the remainder is 18.

Now select the divisor 20 of this round as new dividend and the remainder 18 as new divisor.

Round 2:

Determine the quotient and remainder of 20 : 18.

We have $20 = 1 \cdot 18 + 2$, so the quotient is 1, the remainder is 2.

Now select the divisor 18 of this round as new dividend and the remainder 2 as new divisor.

Round 3:

Determine the quotient and remainder of 18 : 2.

We have $18 = 9 \cdot 2 + 0$, so the quotient is 9, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(78,20)=2.

b) Number 1: 64, Number 2: 20. Determine the larger number of these: 64.

Round 1:

Determine the quotient and remainder of 64 : 20.

We have $64 = 3 \cdot 20 + 4$, so the quotient is 3, the remainder is 4.

Now select the divisor 20 of this round as new dividend and the remainder 4 as new divisor.

Round 2:

Determine the quotient and remainder of 20 : 4.

We have $20 = 5 \cdot 4 + 0$, so the quotient is 5, the remainder is 0.

Finished. The last dividend 4 ist also the GCD, so we have gcd(64,20)=4.

c) Number 1: 77, Number 2: 49. Determine the larger number of these: 77.

Round 1:

Determine the quotient and remainder of 77 : 49.

We have $77 = 1 \cdot 49 + 28$, so the quotient is 1, the remainder is 28.

Now select the divisor 49 of this round as new dividend and the remainder 28 as new divisor.

Round 2:

Determine the quotient and remainder of 49 : 28.

We have $49 = 1 \cdot 28 + 21$, so the quotient is 1, the remainder is 21.

Now select the divisor 28 of this round as new dividend and the remainder 21 as new divisor.

Round 3:

Determine the quotient and remainder of 28 : 21.

We have $28 = 1 \cdot 21 + 7$, so the quotient is 1, the remainder is 7.

Now select the divisor 21 of this round as new dividend and the remainder 7 as new divisor.

Round 4:

Determine the quotient and remainder of 21 : 7.

We have $21 = 3 \cdot 7 + 0$, so the quotient is 3, the remainder is 0.

Finished. The last dividend 7 ist also the GCD, so we have gcd(77,49)=7.

d) Number 1: 27, Number 2: 60. Determine the larger number of these: 60.

Round 1:

Determine the quotient and remainder of 60 : 27.

We have $60 = 2 \cdot 27 + 6$, so the quotient is 2, the remainder is 6.

Now select the divisor 27 of this round as new dividend and the remainder 6 as new divisor.

Round 2:

Determine the quotient and remainder of 27 : 6.

We have $27 = 4 \cdot 6 + 3$, so the quotient is 4, the remainder is 3.

Now select the divisor 6 of this round as new dividend and the remainder 3 as new divisor.

Round 3:

Determine the quotient and remainder of 6 : 3.

We have $6 = 2 \cdot 3 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 3 ist also the GCD, so we have gcd(60,27)=3.

e) Number 1: 45, Number 2: 38. Determine the larger number of these: 45.

Round 1:

Determine the quotient and remainder of 45 : 38.

We have $45 = 1 \cdot 38 + 7$, so the quotient is 1, the remainder is 7.

Now select the divisor 38 of this round as new dividend and the remainder 7 as new divisor.

Round 2:

Determine the quotient and remainder of 38 : 7.

We have $38 = 5 \cdot 7 + 3$, so the quotient is 5, the remainder is 3.

Now select the divisor 7 of this round as new dividend and the remainder 3 as new divisor.

Round 3:

Determine the quotient and remainder of 7 : 3.

We have $7 = 2 \cdot 3 + 1$, so the quotient is 2, the remainder is 1.

Now select the divisor 3 of this round as new dividend and the remainder 1 as new divisor.

Round 4:

Determine the quotient and remainder of 3 : 1.

We have $3 = 3 \cdot 1 + 0$, so the quotient is 3, the remainder is 0.

Finished. The last dividend 1 ist also the GCD, so we have gcd(45,38)=1.

f) Number 1: 22, Number 2: 18. Determine the larger number of these: 22.

Round 1:

Determine the quotient and remainder of 22 : 18.

We have $22 = 1 \cdot 18 + 4$, so the quotient is 1, the remainder is 4.

Now select the divisor 18 of this round as new dividend and the remainder 4 as new divisor.

Round 2:

Determine the quotient and remainder of 18 : 4.

We have $18 = 4 \cdot 4 + 2$, so the quotient is 4, the remainder is 2.

Now select the divisor 4 of this round as new dividend and the remainder 2 as new divisor.

Round 3:

Determine the quotient and remainder of 4 : 2.

We have $4 = 2 \cdot 2 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(22,18)=2.

g) Number 1: 56, Number 2: 22. Determine the larger number of these: 56.

Round 1:

Determine the quotient and remainder of 56 : 22.

We have $56 = 2 \cdot 22 + 12$, so the quotient is 2, the remainder is 12.

Now select the divisor 22 of this round as new dividend and the remainder 12 as new divisor.

Round 2:

Determine the quotient and remainder of 22 : 12.

We have $22 = 1 \cdot 12 + 10$, so the quotient is 1, the remainder is 10.

Now select the divisor 12 of this round as new dividend and the remainder 10 as new divisor.

Round 3:

Determine the quotient and remainder of 12 : 10.

We have $12 = 1 \cdot 10 + 2$, so the quotient is 1, the remainder is 2.

Now select the divisor 10 of this round as new dividend and the remainder 2 as new divisor.

Round 4:

Determine the quotient and remainder of 10 : 2.

We have $10 = 5 \cdot 2 + 0$, so the quotient is 5, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(56,22)=2.

2)

Quick: 2001

Determine the greatest common divisor (GCD). Use the Euclidean Algorithm as shown in the example. Write down the computational steps in detail.

a) Number 1: 313, Number 2: 389. Determine the larger number of these: 389.

Round 1:

Determine the quotient and remainder of 389 : 313.

We have $389 = 1 \cdot 313 + 76$, so the quotient is 1, the remainder is 76.

Now select the divisor 313 of this round as new dividend and the remainder 76 as new divisor.

Round 2:

Determine the quotient and remainder of 313 : 76.

We have $313 = 4 \cdot 76 + 9$, so the quotient is 4, the remainder is 9.

Now select the divisor 76 of this round as new dividend and the remainder 9 as new divisor.

Round 3:

Determine the quotient and remainder of 76 : 9.

We have $76 = 8 \cdot 9 + 4$, so the quotient is 8, the remainder is 4.

Now select the divisor 9 of this round as new dividend and the remainder 4 as new divisor.

Round 4:

Determine the quotient and remainder of 9 : 4.

We have $9 = 2 \cdot 4 + 1$, so the quotient is 2, the remainder is 1.

Now select the divisor 4 of this round as new dividend and the remainder 1 as new divisor.

Round 5:

Determine the quotient and remainder of 4 : 1.

We have $4 = 4 \cdot 1 + 0$, so the quotient is 4, the remainder is 0.

Finished. The last dividend 1 ist also the GCD, so we have gcd(389,313)=1.

b) Number 1: 578, Number 2: 716. Determine the larger number of these: 716.

Round 1:

Determine the quotient and remainder of 716 : 578.

We have $716 = 1 \cdot 578 + 138$, so the quotient is 1, the remainder is 138.

Now select the divisor 578 of this round as new dividend and the remainder 138 as new divisor.

Round 2:

Determine the quotient and remainder of 578 : 138.

We have $578 = 4 \cdot 138 + 26$, so the quotient is 4, the remainder is 26.

Now select the divisor 138 of this round as new dividend and the remainder 26 as new divisor.

Round 3:

Determine the quotient and remainder of 138 : 26.

We have $138 = 5 \cdot 26 + 8$, so the quotient is 5, the remainder is 8.

Now select the divisor 26 of this round as new dividend and the remainder 8 as new divisor.

Round 4:

Determine the quotient and remainder of 26 : 8.

We have $26 = 3 \cdot 8 + 2$, so the quotient is 3, the remainder is 2.

Now select the divisor 8 of this round as new dividend and the remainder 2 as new divisor.

Round 5:

Determine the quotient and remainder of 8 : 2.

We have $8 = 4 \cdot 2 + 0$, so the quotient is 4, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(716,578)=2.

c) Number 1: 674, Number 2: 460. Determine the larger number of these: 674.

Round 1:

Determine the quotient and remainder of 674 : 460.

We have $674 = 1 \cdot 460 + 214$, so the quotient is 1, the remainder is 214.

Now select the divisor 460 of this round as new dividend and the remainder 214 as new divisor.

Round 2:

Determine the quotient and remainder of 460 : 214.

We have $460 = 2 \cdot 214 + 32$, so the quotient is 2, the remainder is 32.

Now select the divisor 214 of this round as new dividend and the remainder 32 as new divisor.

Round 3:

Determine the quotient and remainder of 214 : 32.

We have $214 = 6 \cdot 32 + 22$, so the quotient is 6, the remainder is 22.

Now select the divisor 32 of this round as new dividend and the remainder 22 as new divisor.

Round 4:

Determine the quotient and remainder of 32 : 22.

We have $32 = 1 \cdot 22 + 10$, so the quotient is 1, the remainder is 10.

Now select the divisor 22 of this round as new dividend and the remainder 10 as new divisor.

Round 5:

Determine the quotient and remainder of 22 : 10.

We have $22 = 2 \cdot 10 + 2$, so the quotient is 2, the remainder is 2.

Now select the divisor 10 of this round as new dividend and the remainder 2 as new divisor.

Round 6:

Determine the quotient and remainder of 10 : 2.

We have $10 = 5 \cdot 2 + 0$, so the quotient is 5, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(674,460)=2.

d) Number 1: 289, Number 2: 307. Determine the larger number of these: 307.

Round 1:

Determine the quotient and remainder of 307 : 289.

We have $307 = 1 \cdot 289 + 18$, so the quotient is 1, the remainder is 18.

Now select the divisor 289 of this round as new dividend and the remainder 18 as new divisor.

Round 2:

Determine the quotient and remainder of 289 : 18.

We have $289 = 16 \cdot 18 + 1$, so the quotient is 16, the remainder is 1.

Now select the divisor 18 of this round as new dividend and the remainder 1 as new divisor.

Round 3:

Determine the quotient and remainder of 18 : 1.

We have $18 = 18 \cdot 1 + 0$, so the quotient is 18, the remainder is 0.

Finished. The last dividend 1 ist also the GCD, so we have gcd(307,289)=1.

e) Number 1: 789, Number 2: 312. Determine the larger number of these: 789.

Round 1:

Determine the quotient and remainder of 789 : 312.

We have $789 = 2 \cdot 312 + 165$, so the quotient is 2, the remainder is 165.

Now select the divisor 312 of this round as new dividend and the remainder 165 as new divisor.

Round 2:

Determine the quotient and remainder of 312 : 165.

We have $312 = 1 \cdot 165 + 147$, so the quotient is 1, the remainder is 147.

Now select the divisor 165 of this round as new dividend and the remainder 147 as new divisor.

Round 3:

Determine the quotient and remainder of 165 : 147.

We have $165 = 1 \cdot 147 + 18$, so the quotient is 1, the remainder is 18.

Now select the divisor 147 of this round as new dividend and the remainder 18 as new divisor.

Round 4:

Determine the quotient and remainder of 147 : 18.

We have $147 = 8 \cdot 18 + 3$, so the quotient is 8, the remainder is 3.

Now select the divisor 18 of this round as new dividend and the remainder 3 as new divisor.

Round 5:

Determine the quotient and remainder of 18 : 3.

We have $18 = 6 \cdot 3 + 0$, so the quotient is 6, the remainder is 0.

Finished. The last dividend 3 ist also the GCD, so we have gcd(789,312)=3.

f) Number 1: 374, Number 2: 846. Determine the larger number of these: 846.

Round 1:

Determine the quotient and remainder of 846 : 374.

We have $846 = 2 \cdot 374 + 98$, so the quotient is 2, the remainder is 98.

Now select the divisor 374 of this round as new dividend and the remainder 98 as new divisor.

Round 2:

Determine the quotient and remainder of 374 : 98.

We have $374 = 3 \cdot 98 + 80$, so the quotient is 3, the remainder is 80.

Now select the divisor 98 of this round as new dividend and the remainder 80 as new divisor.

Round 3:

Determine the quotient and remainder of 98 : 80.

We have $98 = 1 \cdot 80 + 18$, so the quotient is 1, the remainder is 18.

Now select the divisor 80 of this round as new dividend and the remainder 18 as new divisor.

Round 4:

Determine the quotient and remainder of 80 : 18.

We have $80 = 4 \cdot 18 + 8$, so the quotient is 4, the remainder is 8.

Now select the divisor 18 of this round as new dividend and the remainder 8 as new divisor.

Round 5:

Determine the quotient and remainder of 18 : 8.

We have $18 = 2 \cdot 8 + 2$, so the quotient is 2, the remainder is 2.

Now select the divisor 8 of this round as new dividend and the remainder 2 as new divisor.

Round 6:

Determine the quotient and remainder of 8 : 2.

We have $8 = 4 \cdot 2 + 0$, so the quotient is 4, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(846,374)=2.

g) Number 1: 497, Number 2: 671. Determine the larger number of these: 671.

Round 1:

Determine the quotient and remainder of 671 : 497.

We have $671 = 1 \cdot 497 + 174$, so the quotient is 1, the remainder is 174.

Now select the divisor 497 of this round as new dividend and the remainder 174 as new divisor.

Round 2:

Determine the quotient and remainder of 497 : 174.

We have $497 = 2 \cdot 174 + 149$, so the quotient is 2, the remainder is 149.

Now select the divisor 174 of this round as new dividend and the remainder 149 as new divisor.

Round 3:

Determine the quotient and remainder of 174 : 149.

We have $174 = 1 \cdot 149 + 25$, so the quotient is 1, the remainder is 25.

Now select the divisor 149 of this round as new dividend and the remainder 25 as new divisor.

Round 4:

Determine the quotient and remainder of 149 : 25.

We have $149 = 5 \cdot 25 + 24$, so the quotient is 5, the remainder is 24.

Now select the divisor 25 of this round as new dividend and the remainder 24 as new divisor.

Round 5:

Determine the quotient and remainder of 25 : 24.

We have $25 = 1 \cdot 24 + 1$, so the quotient is 1, the remainder is 1.

Now select the divisor 24 of this round as new dividend and the remainder 1 as new divisor.

Round 6:

Determine the quotient and remainder of 24 : 1.

We have $24 = 24 \cdot 1 + 0$, so the quotient is 24, the remainder is 0.

Finished. The last dividend 1 ist also the GCD, so we have gcd(671,497)=1.

3)

Determine the greatest common divisor (GCD). Use the Euclidean Algorithm and write down the computational steps in detail.

a) Number 1: 36, Number 2: 82. Determine the larger number of these: 82.

Round 1:

Determine the quotient and remainder of 82 : 36.

We have $82 = 2 \cdot 36 + 10$, so the quotient is 2, the remainder is 10.

Now select the divisor 36 of this round as new dividend and the remainder 10 as new divisor.

Round 2:

Determine the quotient and remainder of 36 : 10.

We have $36 = 3 \cdot 10 + 6$, so the quotient is 3, the remainder is 6.

Now select the divisor 10 of this round as new dividend and the remainder 6 as new divisor.

Round 3:

Determine the quotient and remainder of 10 : 6.

We have $10 = 1 \cdot 6 + 4$, so the quotient is 1, the remainder is 4.

Now select the divisor 6 of this round as new dividend and the remainder 4 as new divisor.

Round 4:

Determine the quotient and remainder of 6 : 4.

We have $6 = 1 \cdot 4 + 2$, so the quotient is 1, the remainder is 2.

Now select the divisor 4 of this round as new dividend and the remainder 2 as new divisor.

Round 5:

Determine the quotient and remainder of 4 : 2.

We have $4 = 2 \cdot 2 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(82,36)=2.

b) Number 1: 68, Number 2: 85. Determine the larger number of these: 85.

Round 1:

Determine the quotient and remainder of 85 : 68.

We have $85 = 1 \cdot 68 + 17$, so the quotient is 1, the remainder is 17.

Now select the divisor 68 of this round as new dividend and the remainder 17 as new divisor.

Round 2:

Determine the quotient and remainder of 68 : 17.

We have $68 = 4 \cdot 17 + 0$, so the quotient is 4, the remainder is 0.

Finished. The last dividend 17 ist also the GCD, so we have gcd(85,68)=17.

c) Number 1: 52, Number 2: 58. Determine the larger number of these: 58.

Round 1:

Determine the quotient and remainder of 58 : 52.

We have $58 = 1 \cdot 52 + 6$, so the quotient is 1, the remainder is 6.

Now select the divisor 52 of this round as new dividend and the remainder 6 as new divisor.

Round 2:

Determine the quotient and remainder of 52 : 6.

We have $52 = 8 \cdot 6 + 4$, so the quotient is 8, the remainder is 4.

Now select the divisor 6 of this round as new dividend and the remainder 4 as new divisor.

Round 3:

Determine the quotient and remainder of 6 : 4.

We have $6 = 1 \cdot 4 + 2$, so the quotient is 1, the remainder is 2.

Now select the divisor 4 of this round as new dividend and the remainder 2 as new divisor.

Round 4:

Determine the quotient and remainder of 4 : 2.

We have $4 = 2 \cdot 2 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(58,52)=2.

d) Number 1: 90, Number 2: 36. Determine the larger number of these: 90.

Round 1:

Determine the quotient and remainder of 90 : 36.

We have $90 = 2 \cdot 36 + 18$, so the quotient is 2, the remainder is 18.

Now select the divisor 36 of this round as new dividend and the remainder 18 as new divisor.

Round 2:

Determine the quotient and remainder of 36 : 18.

We have $36 = 2 \cdot 18 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 18 ist also the GCD, so we have gcd(90,36)=18.

e) Number 1: 28, Number 2: 76. Determine the larger number of these: 76.

Round 1:

Determine the quotient and remainder of 76 : 28.

We have $76 = 2 \cdot 28 + 20$, so the quotient is 2, the remainder is 20.

Now select the divisor 28 of this round as new dividend and the remainder 20 as new divisor.

Round 2:

Determine the quotient and remainder of 28 : 20.

We have $28 = 1 \cdot 20 + 8$, so the quotient is 1, the remainder is 8.

Now select the divisor 20 of this round as new dividend and the remainder 8 as new divisor.

Round 3:

Determine the quotient and remainder of 20 : 8.

We have $20 = 2 \cdot 8 + 4$, so the quotient is 2, the remainder is 4.

Now select the divisor 8 of this round as new dividend and the remainder 4 as new divisor.

Round 4:

Determine the quotient and remainder of 8 : 4.

We have $8 = 2 \cdot 4 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 4 ist also the GCD, so we have gcd(76,28)=4.

f) Number 1: 37, Number 2: 78. Determine the larger number of these: 78.

Round 1:

Determine the quotient and remainder of 78 : 37.

We have $78 = 2 \cdot 37 + 4$, so the quotient is 2, the remainder is 4.

Now select the divisor 37 of this round as new dividend and the remainder 4 as new divisor.

Round 2:

Determine the quotient and remainder of 37 : 4.

We have $37 = 9 \cdot 4 + 1$, so the quotient is 9, the remainder is 1.

Now select the divisor 4 of this round as new dividend and the remainder 1 as new divisor.

Round 3:

Determine the quotient and remainder of 4 : 1.

We have $4 = 4 \cdot 1 + 0$, so the quotient is 4, the remainder is 0.

Finished. The last dividend 1 ist also the GCD, so we have gcd(78,37)=1.

g) Number 1: 74, Number 2: 82. Determine the larger number of these: 82.

Round 1:

Determine the quotient and remainder of 82 : 74.

We have $82 = 1 \cdot 74 + 8$, so the quotient is 1, the remainder is 8.

Now select the divisor 74 of this round as new dividend and the remainder 8 as new divisor.

Round 2:

Determine the quotient and remainder of 74 : 8.

We have $74 = 9 \cdot 8 + 2$, so the quotient is 9, the remainder is 2.

Now select the divisor 8 of this round as new dividend and the remainder 2 as new divisor.

Round 3:

Determine the quotient and remainder of 8 : 2.

We have $8 = 4 \cdot 2 + 0$, so the quotient is 4, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(82,74)=2.

<u>4)</u>

Determine the greatest common divisor (GCD). Use the Euclidean Algorithm as shown in the example. Write down the computational steps in detail.

a) Number 1: 22, Number 2: 62. Determine the larger number of these: 62.

Round 1:

Determine the quotient and remainder of 62 : 22.

We have $62 = 2 \cdot 22 + 18$, so the quotient is 2, the remainder is 18.

Now select the divisor 22 of this round as new dividend and the remainder 18 as new divisor.

Round 2:

Determine the quotient and remainder of 22 : 18.

We have $22 = 1 \cdot 18 + 4$, so the quotient is 1, the remainder is 4.

Now select the divisor 18 of this round as new dividend and the remainder 4 as new divisor.

Round 3:

Determine the quotient and remainder of 18 : 4.

We have $18 = 4 \cdot 4 + 2$, so the quotient is 4, the remainder is 2.

Now select the divisor 4 of this round as new dividend and the remainder 2 as new divisor.

Round 4:

Determine the quotient and remainder of 4 : 2.

We have $4 = 2 \cdot 2 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(62,22)=2.

b) Number 1: 30, Number 2: 69. Determine the larger number of these: 69.

Round 1:

Determine the quotient and remainder of 69 : 30.

We have $69 = 2 \cdot 30 + 9$, so the quotient is 2, the remainder is 9.

Now select the divisor 30 of this round as new dividend and the remainder 9 as new divisor.

Round 2:

Determine the quotient and remainder of 30 : 9.

We have $30 = 3 \cdot 9 + 3$, so the quotient is 3, the remainder is 3.

Now select the divisor 9 of this round as new dividend and the remainder 3 as new divisor.

Round 3:

Determine the quotient and remainder of 9 : 3.

We have $9 = 3 \cdot 3 + 0$, so the quotient is 3, the remainder is 0.

Finished. The last dividend 3 ist also the GCD, so we have gcd(69,30)=3.

c) Number 1: 70, Number 2: 38. Determine the larger number of these: 70.

Round 1:

Determine the quotient and remainder of 70 : 38.

We have $70 = 1 \cdot 38 + 32$, so the quotient is 1, the remainder is 32.

Now select the divisor 38 of this round as new dividend and the remainder 32 as new divisor.

Round 2:

Determine the quotient and remainder of 38 : 32.

We have $38 = 1 \cdot 32 + 6$, so the quotient is 1, the remainder is 6.

Now select the divisor 32 of this round as new dividend and the remainder 6 as new divisor.

Round 3:

Determine the quotient and remainder of 32 : 6.

We have $32 = 5 \cdot 6 + 2$, so the quotient is 5, the remainder is 2.

Now select the divisor 6 of this round as new dividend and the remainder 2 as new divisor.

Round 4:

Determine the quotient and remainder of 6 : 2.

We have $6 = 3 \cdot 2 + 0$, so the quotient is 3, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(70,38)=2.

d) Number 1: 74, Number 2: 48. Determine the larger number of these: 74.

Round 1:

Determine the quotient and remainder of 74 : 48.

We have $74 = 1 \cdot 48 + 26$, so the quotient is 1, the remainder is 26.

Now select the divisor 48 of this round as new dividend and the remainder 26 as new divisor.

Round 2:

Determine the quotient and remainder of 48 : 26.

We have $48 = 1 \cdot 26 + 22$, so the quotient is 1, the remainder is 22.

Now select the divisor 26 of this round as new dividend and the remainder 22 as new divisor.

Round 3:

Determine the quotient and remainder of 26 : 22.

We have $26 = 1 \cdot 22 + 4$, so the quotient is 1, the remainder is 4.

Now select the divisor 22 of this round as new dividend and the remainder 4 as new divisor.

Round 4:

Determine the quotient and remainder of 22 : 4.

We have $22 = 5 \cdot 4 + 2$, so the quotient is 5, the remainder is 2.

Now select the divisor 4 of this round as new dividend and the remainder 2 as new divisor.

Round 5:

Determine the quotient and remainder of 4 : 2.

We have $4 = 2 \cdot 2 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 2 ist also the GCD, so we have gcd(74,48)=2.

e) Number 1: 76, Number 2: 38. Determine the larger number of these: 76.

Round 1:

Determine the quotient and remainder of 76 : 38.

We have $76 = 2 \cdot 38 + 0$, so the quotient is 2, the remainder is 0.

Finished. The last dividend 38 ist also the GCD, so we have gcd(76,38)=38.

f) Number 1: 21, Number 2: 28. Determine the larger number of these: 28.

Round 1:

Determine the quotient and remainder of 28 : 21.

We have $28 = 1 \cdot 21 + 7$, so the quotient is 1, the remainder is 7.

Now select the divisor 21 of this round as new dividend and the remainder 7 as new divisor.

Round 2:

Determine the quotient and remainder of 21 : 7.

We have $21 = 3 \cdot 7 + 0$, so the quotient is 3, the remainder is 0.

Finished. The last dividend 7 ist also the GCD, so we have gcd(28,21)=7.

g) Number 1: 60, Number 2: 56. Determine the larger number of these: 60.

Round 1:

Determine the quotient and remainder of 60 : 56.

We have $60 = 1 \cdot 56 + 4$, so the quotient is 1, the remainder is 4.

Now select the divisor 56 of this round as new dividend and the remainder 4 as new divisor.

Round 2:

Determine the quotient and remainder of 56 : 4.

We have $56 = 14 \cdot 4 + 0$, so the quotient is 14, the remainder is 0.

Finished. The last dividend 4 ist also the GCD, so we have gcd(60,56)=4.

Good Luck!