# Actividad grupal en clase 1

## Definimos la matriz M

```
M = [50 70 200 360; 90 30 270 320; 120 240 100 1050; 420 370 940 4960]
```

```
M = 4×4
          50          70         200         360
          90          30         270         320
         120         240         100        1050
         420         370         940        4960
```

## Pregunta 1

```
produccionTotalDeA = sum(M(1, :))
```

```
produccionTotalDeA = 680
```

## Pregunta 2

```
M(2, :) = M(2, :) * 5
```

```
M = 4×4
10^3 ×
    0.0500    0.0700    0.2000    0.3600
         0   -0.4800   -0.4500   -1.6400
         0         0   -0.4475   -0.0600
         0         0   -0.0000    2.7526
```

```
M(3, :) = M(3, :) + 2 * M(1, :)
```

```
M = 4×4
10^3 ×
    0.0500    0.0700    0.2000    0.3600
         0   -0.4800   -0.4500   -1.6400
    0.1000    0.1400   -0.0475    0.6600
         0         0   -0.0000    2.7526
```

```
M([2 3], :) = M([3 2], :)
```

```
M = 4×4
10^3 ×
    0.0500    0.0700    0.2000    0.3600
    0.1000    0.1400   -0.0475    0.6600
         0   -0.4800   -0.4500   -1.6400
         0         0   -0.0000    2.7526
```

```
produccionTotalDeC = sum(M(3, :))
```

```
produccionTotalDeC = -2570
```

## Pregunta 3

```
M(2, :) = M(2, :) - 9/5 * M(1, :);
M(3, :) = M(3, :) - 12/5 * (M(1, :));
```

```
M(4, :) = M(4, :) - 42/5 * (M(1, :));
M(3, :) = M(3, :) - 72/-96 * M(2, :);
M(4, :) = M(4, :) + 0.2180/-0.0960 * M(2, :);
M(4, :) = M(4, :) + 0.5356/-0.4475 * M(3, :)
```

```
M = 4×4
10^3 ×
    0.0500    0.0700    0.2000    0.3600
    0.0100    0.0140   -0.4075    0.0120
   -0.1125   -0.6375   -1.2356   -2.4950
   -0.3081    0.1432    0.7242    2.6876
```

```
rank(M)
```

```
ans = 4
```

## Pregunta 4

```
P = [3 -1  0 -1 -3 -1 -2 -3;
    -2  0  0  0  2  0  2  2;
     3  0  0 -1 -1 -2 -1 -1;
     0  0  0  1 -2  2 -2 -2;
     3  1  0  0 -1 -1 -2 -1;
     1 -4  0 -2 -5  0 -1 -5]
```

```
P = 6×8
     3    -1     0    -1    -3    -1    -2    -3
    -2     0     0     0     2     0     2     2
     3     0     0    -1    -1    -2    -1    -1
     0     0     0     1    -2     2    -2    -2
     3     1     0     0    -1    -1    -2    -1
     1    -4     0    -2    -5     0    -1    -5
```

```
erp = rref(P)
```

```
erp = 6×8
     1     0     0     0    -1     0    -1    -1
     0     1     0     0     2    -1     1     2
     0     0     0     1    -2     2    -2    -2
     0     0     0     0     0     0     0     0
     0     0     0     0     0     0     0     0
     0     0     0     0     0     0     0     0
```

```
disp("El rango de la matriz escalonada reducida de P es 3")
```

```
El rango de la matriz escalonada reducida de P es 3
```

```
rank(P)
```

```
ans = 3
```