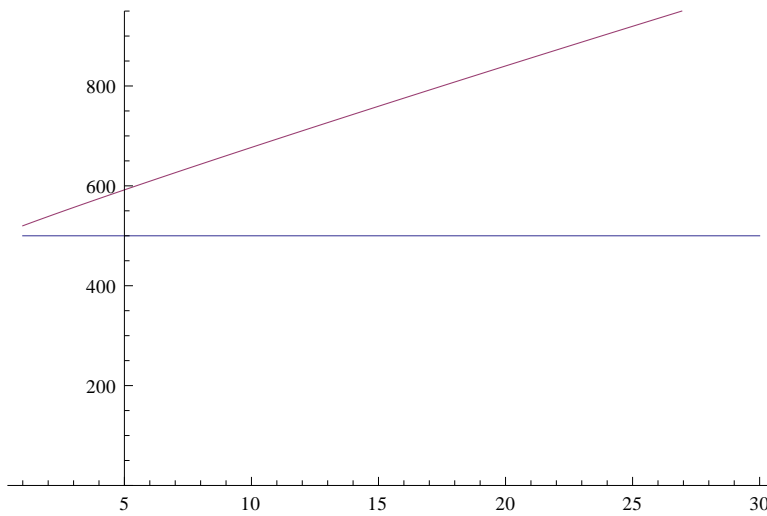```mathematica
e = 500;

z = 950;

t[d_] := (A[d] - e) / (d)

r[d_] := (z - A[d]) / (30.1 - d)

y[A_] := { t[d] - 1   r[d] < t[d] - 1
          { t[d] + 2   r[d] > t[d] + 2
          { r[d]   True

s = NDSolve[{A'[d] == y[A[d]], A[1] == e + (z - e) / 30 + 5}, A, {d, 1, 30}][[1, 1]]
```

A → InterpolatingFunction[{{1., 30.}}, <>]

```mathematica
Plot[{e, Evaluate[A[d] /. s]}, {d, 1, 30}, PlotRange → {0, z}]
```
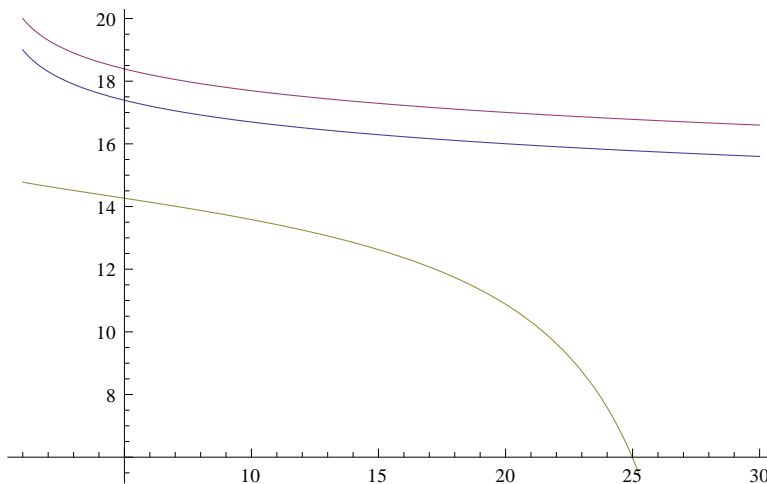


```mathematica
Plot[{Evaluate[y[d] /. s], Evaluate[t[d] /. s], Evaluate[r[d] /. s],}, {d, 1, 30}]
```



```mathematica
Evaluate[A[d] /. s] /. d → 30
```

997.964