In [1]:
```
x0=sqrt(2)
x1=sqrt(3)
x2=sqrt(5)
y0=sqrt(2)*sqrt(3)+sqrt(7)
y1=sqrt(7)+3
y2=sqrt(3)*sqrt(5)+sqrt(7)
show("(",x0,",",y0,")")
show("(",x1,",",y1,")")
show("(",x2,",",y2,")")
```

Out[1]:
$$(\sqrt{2}, \sqrt{3}\sqrt{2} + \sqrt{7})$$

Out[1]:
$$(\sqrt{3}, \sqrt{7} + 3)$$

Out[1]:
$$(\sqrt{5}, \sqrt{5}\sqrt{3} + \sqrt{7})$$

In [2]:
```
A=matrix([[1,1,1],[x0,x1,x2],[y0,y1,y2]]);
show(A)
```

Out[2]:
$$\begin{pmatrix} 1 & 1 & 1 \\ \sqrt{2} & \sqrt{3} & \sqrt{5} \\ \sqrt{3}\sqrt{2} + \sqrt{7} & \sqrt{7} + 3 & \sqrt{5}\sqrt{3} + \sqrt{7} \end{pmatrix}$$

In [3]:
```
maxima_calculus('algebraic: true;')
```

Out[3]:
```
true
```

In [4]:
```
show(det(A).canonicalize_radical())
```

Out[4]:
$$0$$

In [5]:
```
slope=(y2-y0)/(x2-x0).canonicalize_radical()
```

In [6]:
```
cterm=(y1-slope*x1).canonicalize_radical()
```

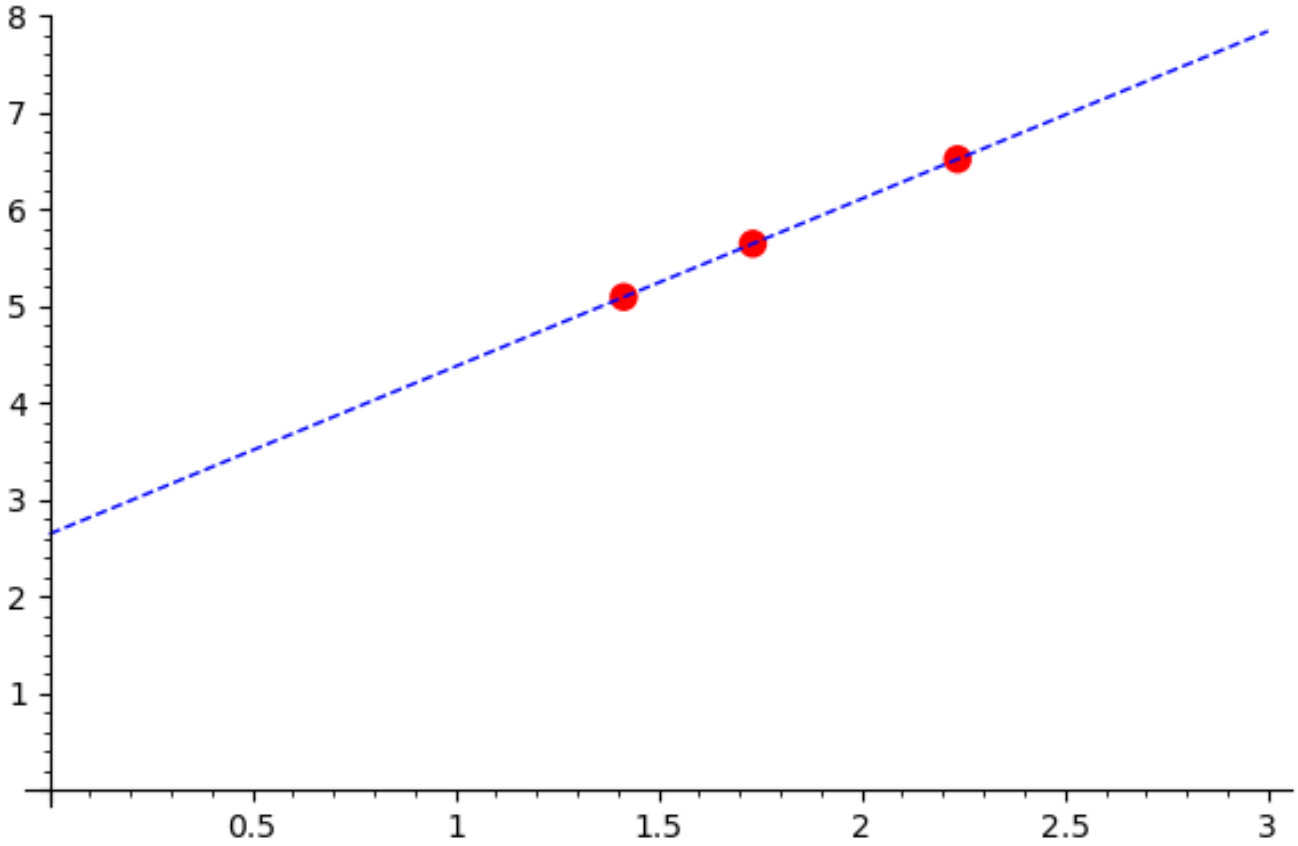
In [7]:
```
f(x)=(slope*x+cterm).canonicalize_radical()
show(f)
```

Out[7]:
$$x \mapsto \sqrt{3}x + \sqrt{7}$$

In [8]:

```
p1=plot(f(x),x,0,3,linestyle="dashed")
pt0=point((x0,y0), rgbcolor='red', pointsize=80)
pt1=point((x1,y1), rgbcolor='red', pointsize=80)
pt2=point((x2,y2), rgbcolor='red', pointsize=80)
(p1+pt0+pt1+pt2).show(ymin=0,xmin=0)
```

Out[8]:



In [0]: