```
(* Quiz 16 *)
```

In[20]:=
```
f[x_] := x^3 / (x - 2);
```

In[21]:=
```
Simplify[f'[x]]
```

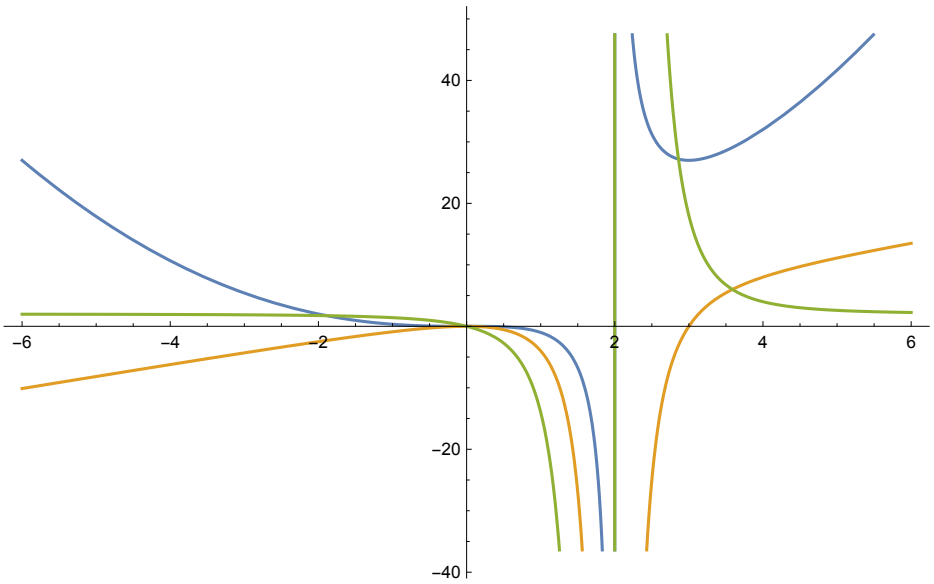
Out[21]=
$$\frac{2\ (-3+x)\ x^2}{(-2+x)^2}$$

In[22]:=
```
Simplify[f''[x]]
```

Out[22]=
$$\frac{2\ x\ \left(12-6\ x+x^2\right)}{(-2+x)^3}$$

In[23]:=
```
Plot[{f[x], f'[x], f''[x]}, {x, -6, 6}]
```

Out[23]=



In[11]:=
```
g[x_] := x Sqrt[2 - x^2];
```

In[12]:=
```
Simplify[g'[x]]
```

Out[12]=
$$-\frac{2\ \left(-1+x^2\right)}{\sqrt{2-x^2}}$$

In[13]:=
```
Simplify[g''[x]]
```

Out[13]=
$$\frac{2\ x\ \left(-3+x^2\right)}{\left(2-x^2\right)^{3/2}}$$

In[14]:=
```
Plot[{g[x], g'[x], g''[x]}, {x, -5, 5}]
```

Out[14]=