6)

(a)

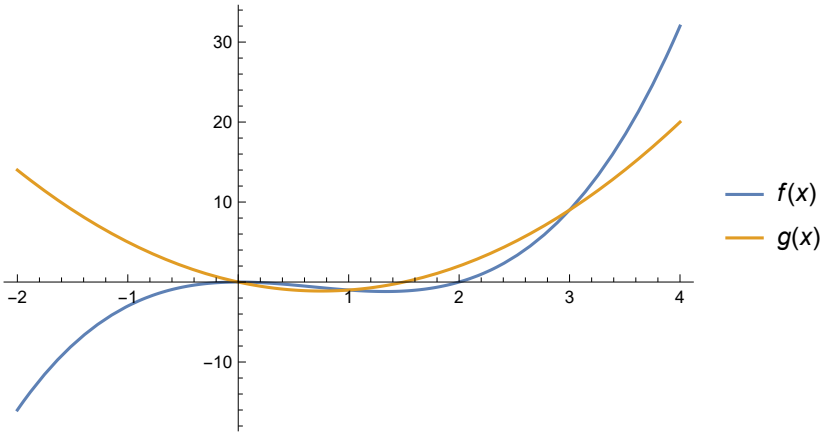
$f(x) = x^3 - 2x^2$

$g(x) = 2x^2 - 3x$

In[1]:=
```
f[x_] = x^3 - 2 x^2;
g[x_] = 2 x^2 - 3 x;
```

In[3]:=
```
Plot[{f[x], g[x]}, {x, -2, 4}, PlotLegends → "Expressions"]
```

Out[3]=



(b)

In[4]:=
```
Solve[f[x] == g[x], x]
```

Out[4]=
```
{{x → 0}, {x → 1}, {x → 3}}
```

(c)

In[5]:=
```
∫_0^1 (f[x] - g[x]) dx + ∫_1^3 (g[x] - f[x]) dx
```

Out[5]=
$$\frac{37}{12}$$

So, total area is $\left(\frac{37}{12}\right)$ unit^2 .