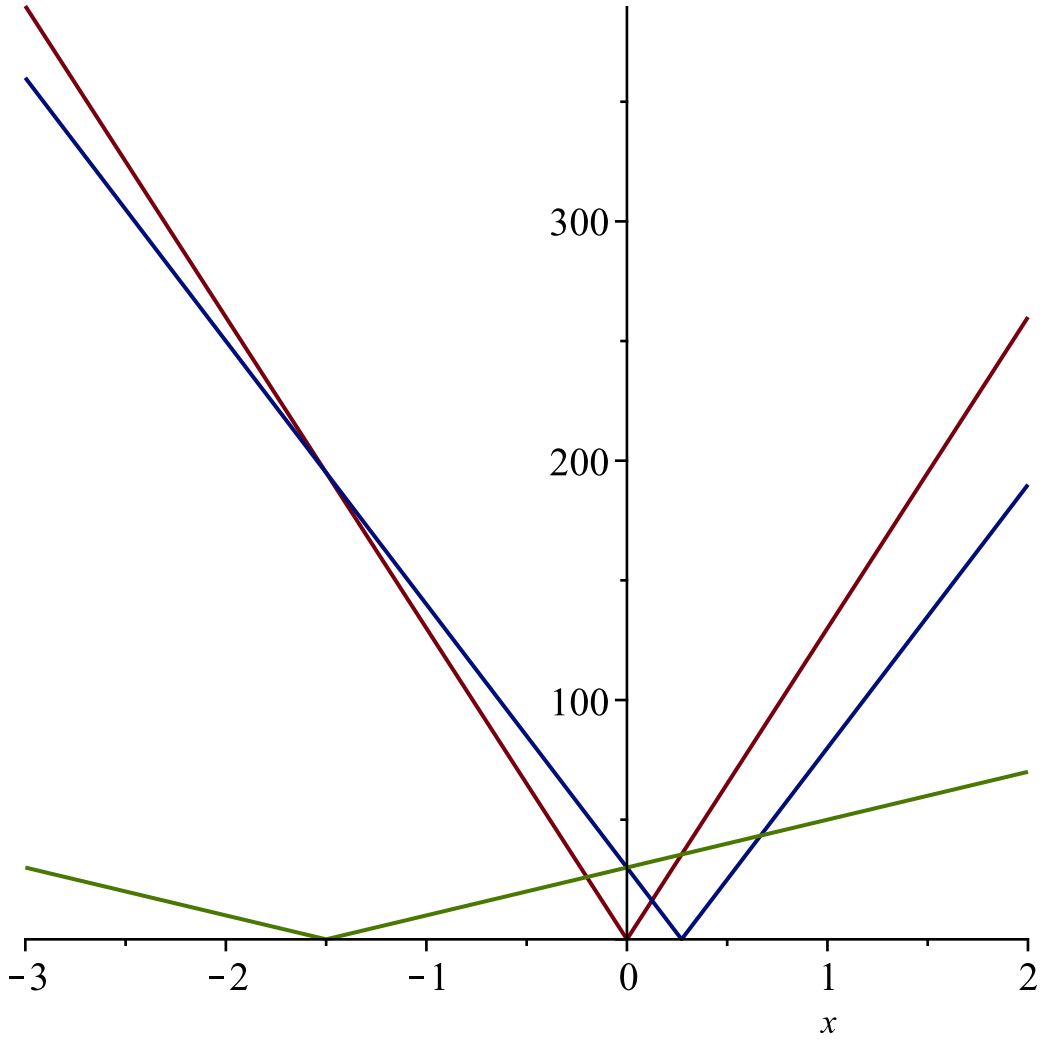
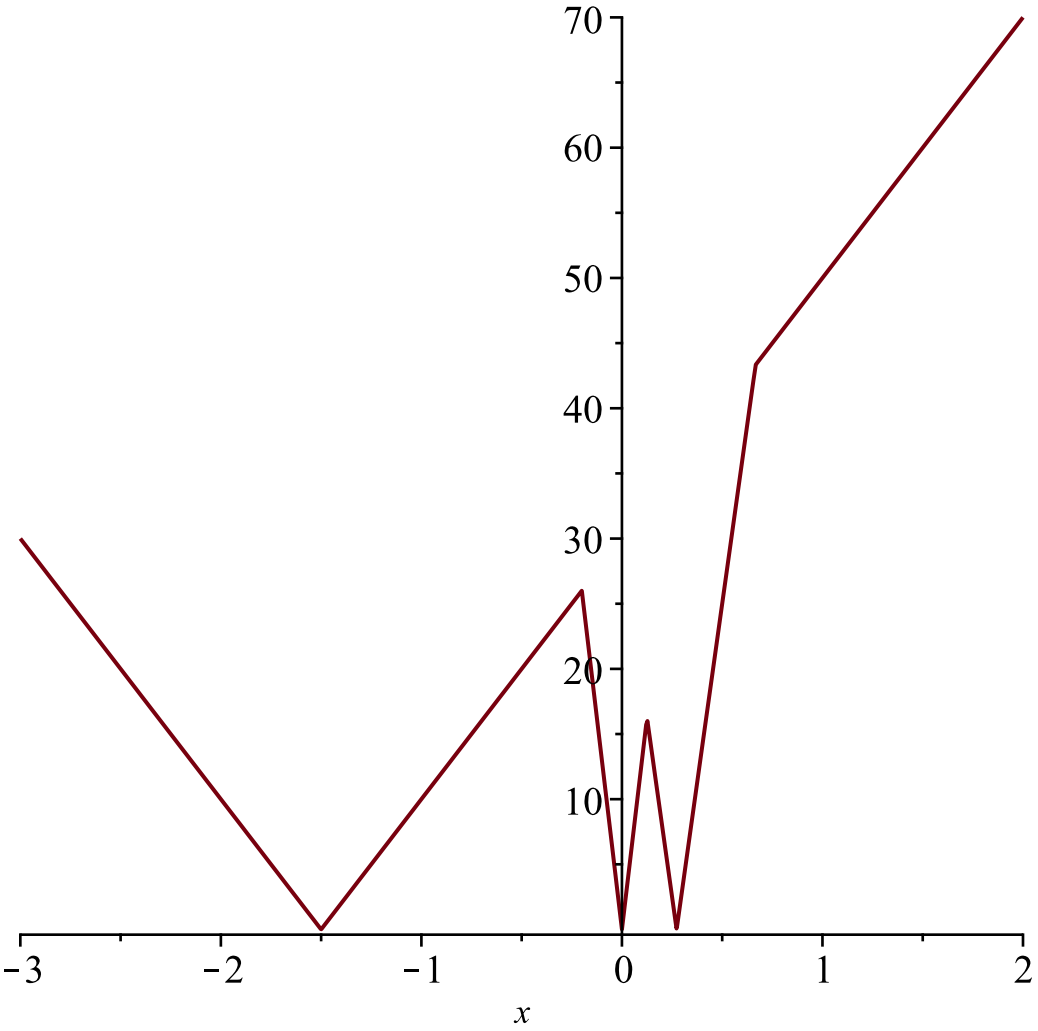
```
> plot( [abs(130·x), abs(-30 + 110·x), abs(-30 - 20·x)], x =-3 ..2)
```




```
> plot(min(abs(130·x), abs(-30 + 110·x), abs(-30 - 20·x)), x =-3 ..2)
```




```
> solve(abs(130·x) = abs(-30 + 110·x)); solve(abs(130·x) = abs(-30 - 20·x));
```

$$-\frac{3}{2}, \frac{1}{8}$$

$$-\frac{1}{5}, \frac{3}{11} \qquad \textbf{(1)}$$

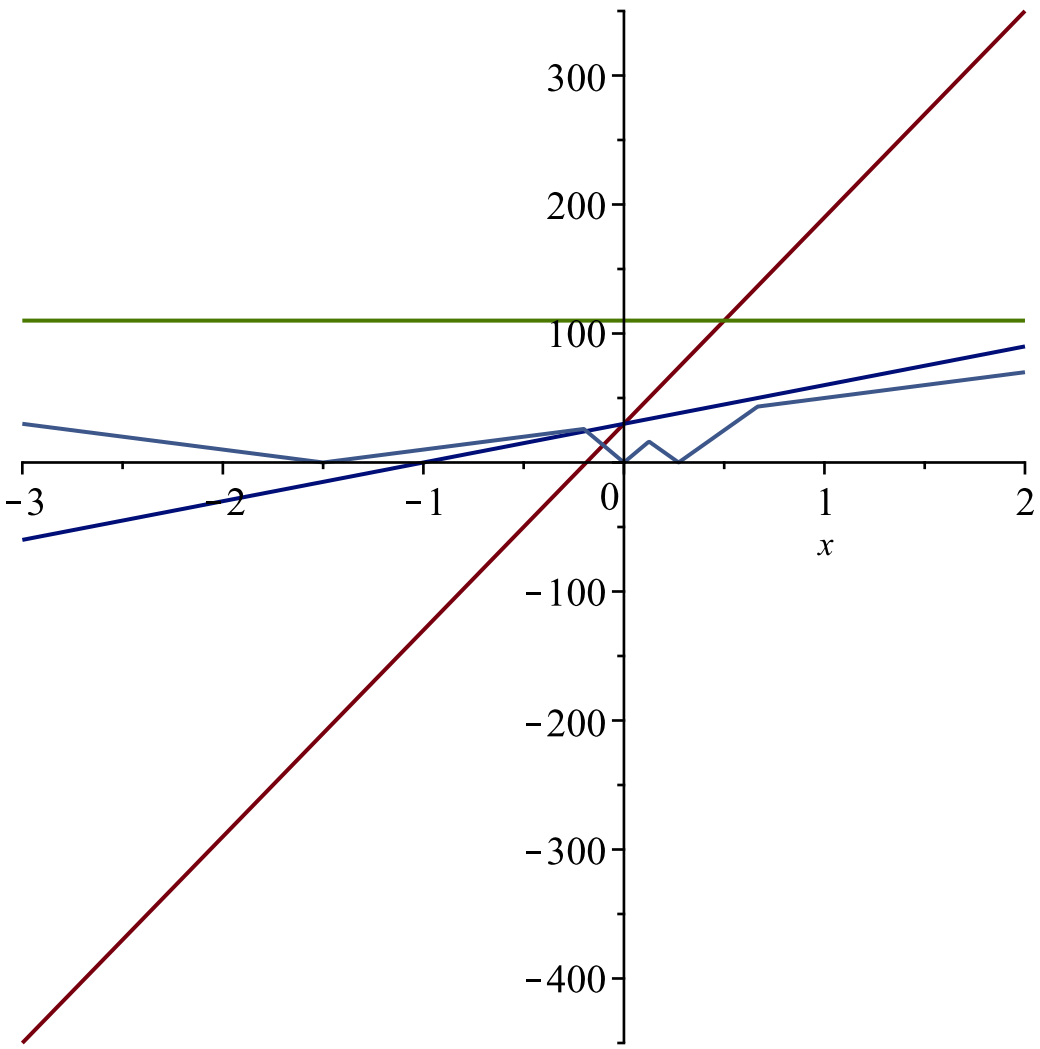
```
> simplify(subs(x = -1/5, [abs(130·x), abs(-30 + 110·x), abs(-30 - 20·x)]))
```

$$[26, 52, 26] \qquad \textbf{(2)}$$

```
> simplify(subs(x = 1/8, [abs(130·x), abs(-30 + 110·x), abs(-30 - 20·x)]))
```

$$\left[\frac{65}{4}, \frac{65}{4}, \frac{65}{2}\right] \qquad \textbf{(3)}$$

```
> plot([30 + 160·x, 30 + 30·x, 60 + 50, min(abs(30 + 160·x - (30 + 30·x)), abs(30 + 30·x
      - (60 + 50·x)), abs(60 + 50·x - (30 + 160·x)))], x = -3..2)
```



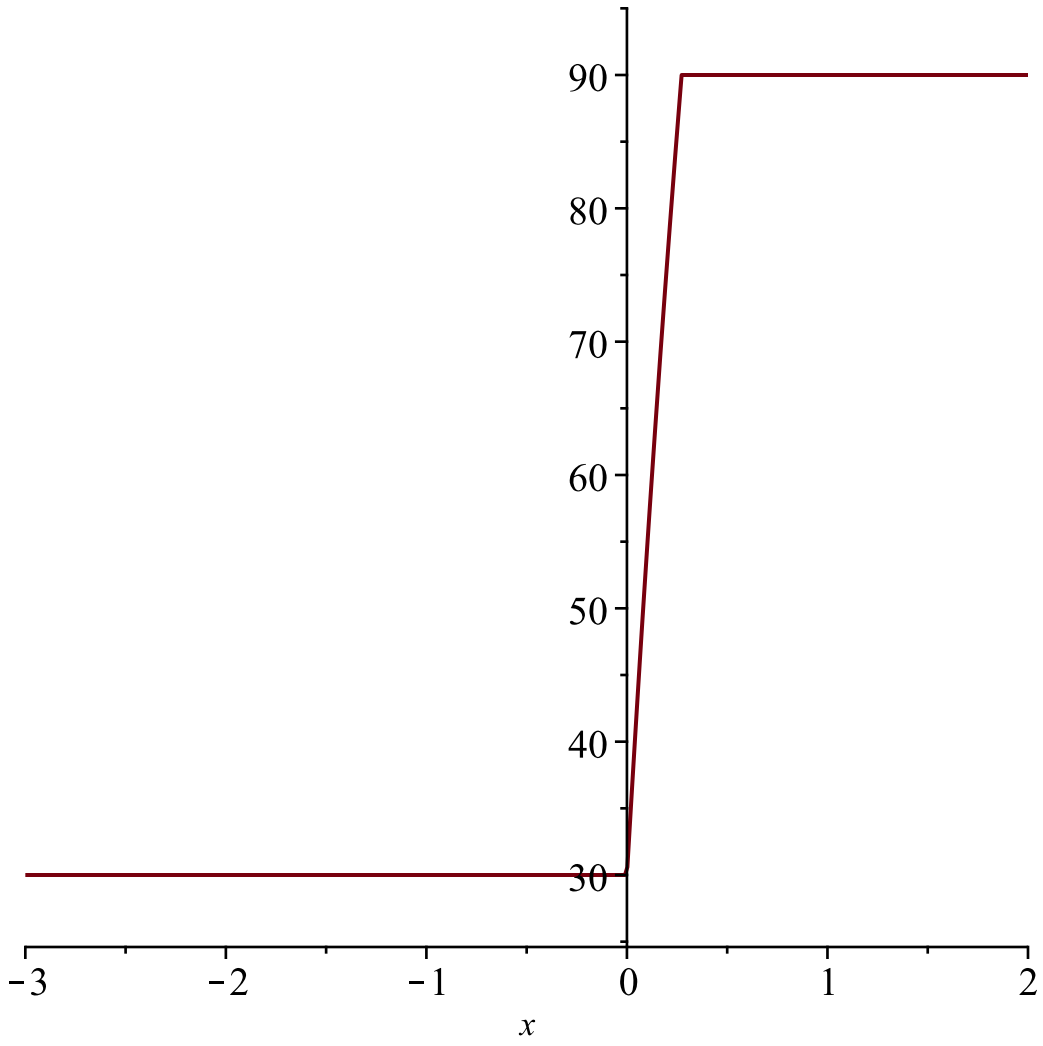
>

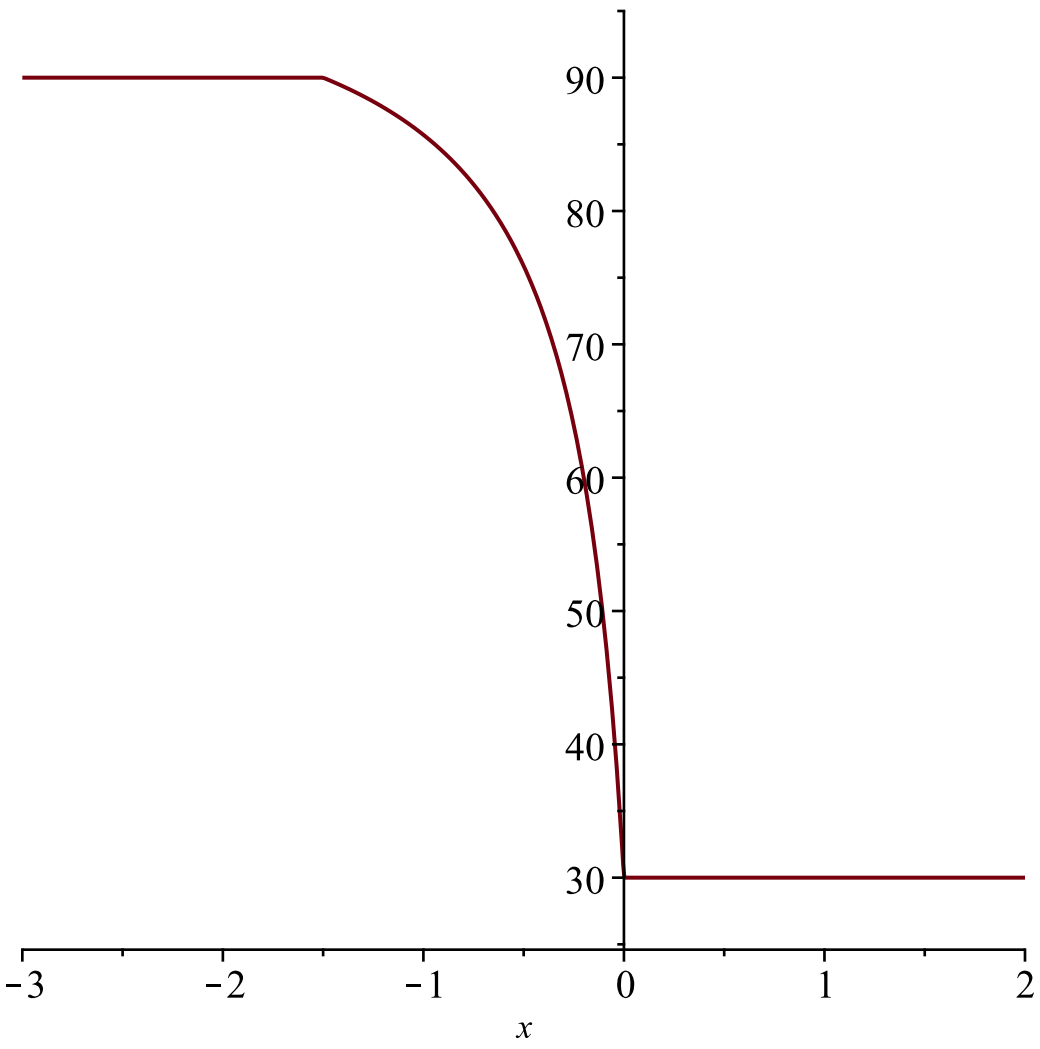
> $plot\left(\min(30, 30, 60) + \frac{\max(30, 30, 60)\cdot(30 + 160\cdot x - \min(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x))}{\max(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x) - \min(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x)}, x = -3..2, 25..95\right);$

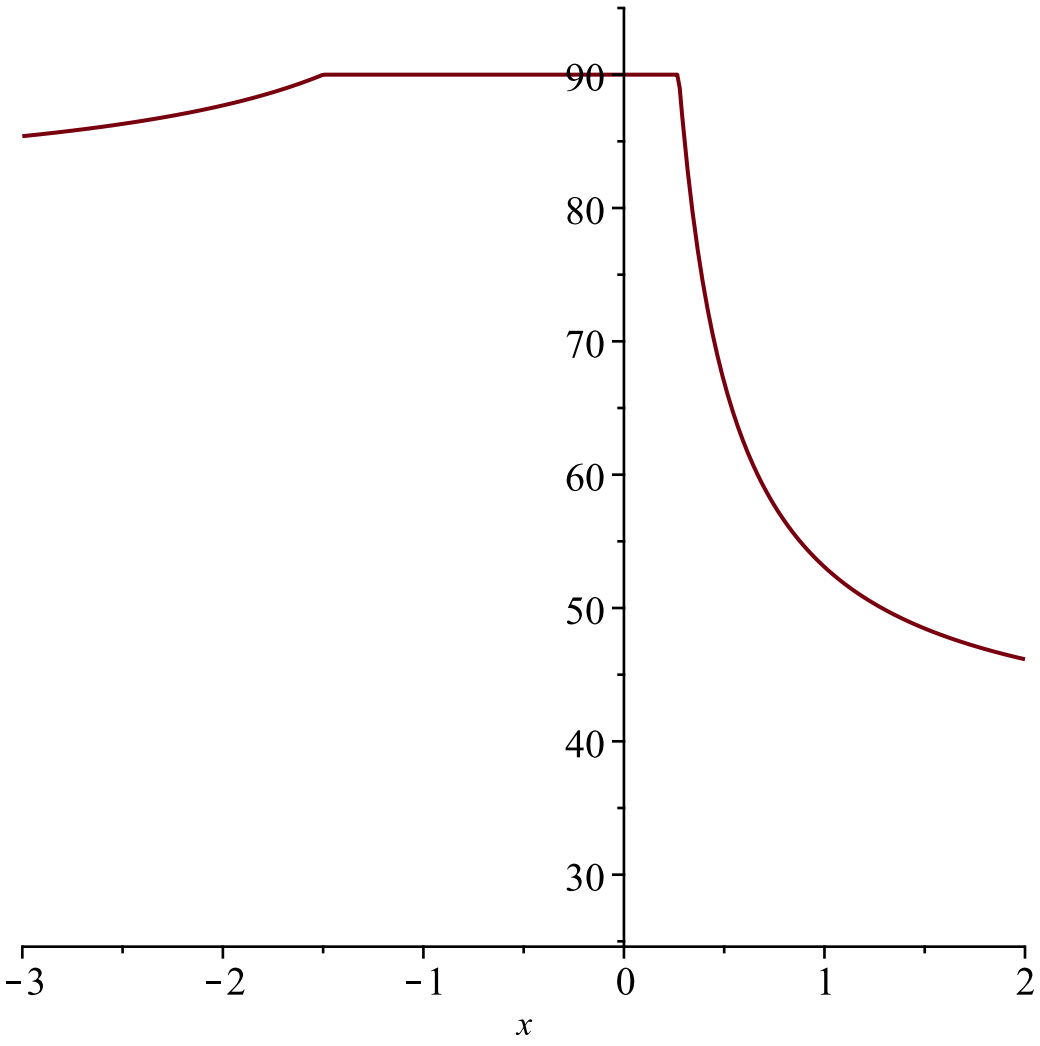
$plot\left(\min(30, 30, 60) + \frac{\max(30, 30, 60)\cdot(30 + 30\cdot x - \min(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x))}{\max(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x) - \min(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x)}, x = -3..2, 25..95\right);$

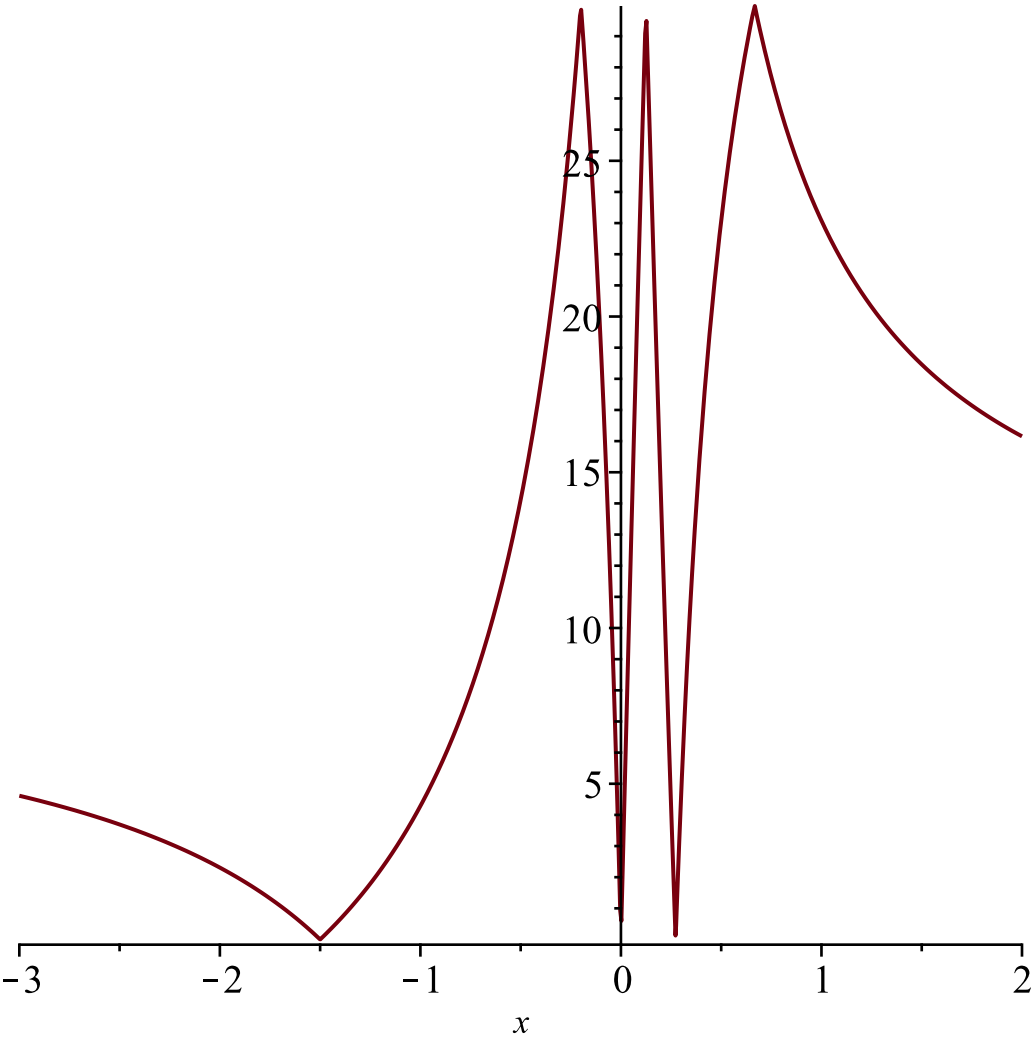
$plot\left(\min(30, 30, 60) + \frac{\max(30, 30, 60)\cdot(60 + 50\cdot x - \min(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x))}{\max(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x) - \min(30 + 160\cdot x, 30 + 30\cdot x, 60 + 50\cdot x)}, x = -3..2, 25..95\right);$

$$plot\left(\left(\max(30, 30, 60)\cdot\min\left(\operatorname{abs}(30+160\cdot x-(30+30\cdot x)), \operatorname{abs}(30+30\cdot x-(60+50\cdot x)), \operatorname{abs}(60+50\cdot x-(30+160\cdot x))\right)\right) \Big/ \left(\max(30+160\cdot x, 30+30\cdot x, 60+50\cdot x)-\min(30+160\cdot x, 30+30\cdot x, 60+50\cdot x)\right), x=-3..2\right);$$

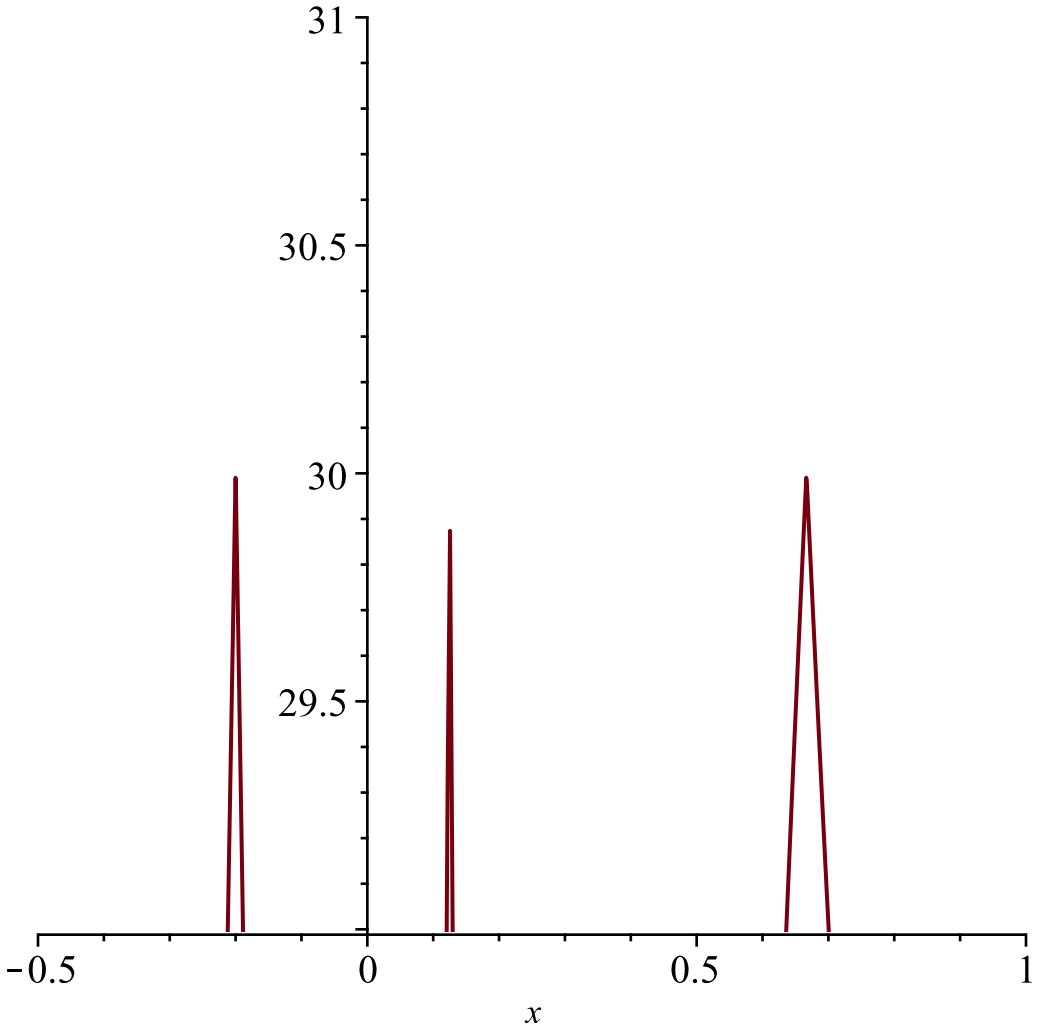



90
80
70
60
50
40
30
−3
−2
−1
0
1
2
x


90
80
70
60
50
40
30
−3
−2
−1
0
1
2
x



> $plot\left((\max(30, 30, 60) \cdot \min(\mathrm{abs}(30 + 160 \cdot x - (30 + 30 \cdot x)), \mathrm{abs}(30 + 30 \cdot x - (60 + 50 \cdot x)), \mathrm{abs}(60 + 50 \cdot x - (30 + 160 \cdot x)))) / (\max(30 + 160 \cdot x, 30 + 30 \cdot x, 60 + 50 \cdot x) - \min(30 + 160 \cdot x, 30 + 30 \cdot x, 60 + 50 \cdot x)), x = -\frac{1}{2} .. 1, 29 .. 31 \right)$




```
> limit((max(30, 30, 60)·min(abs(30 + 160·x − (30 + 30·x)), abs(30 + 30·x − (60 + 50·x)),
      abs(60 + 50·x − (30 + 160·x))))/(max(30 + 160·x, 30 + 30·x, 60 + 50·x) − min(30
      + 160·x, 30 + 30·x, 60 + 50·x)), x = -infinity)
```

$$\frac{120}{13} \tag{4}$$

```
> limit((max(30, 30, 60)·min(abs(30 + 160·x − (30 + 30·x)), abs(30 + 30·x − (60 + 50·x)),
      abs(60 + 50·x − (30 + 160·x))))/(max(30 + 160·x, 30 + 30·x, 60 + 50·x) − min(30
      + 160·x, 30 + 30·x, 60 + 50·x)), x = infinity)
```

$$\frac{120}{13} \tag{5}$$

```
> extrema((max(30, 30, 60)·min(abs(30 + 160·x − (30 + 30·x)), abs(30 + 30·x − (60 + 50
      ·x)), abs(60 + 50·x − (30 + 160·x))))/(max(30 + 160·x, 30 + 30·x, 60 + 50·x)
      − min(30 + 160·x, 30 + 30·x, 60 + 50·x)), x)
```

$$\{0\} \tag{6}$$

```
> with(Optimization):
> Maximize((max(30, 30, 60)·min(abs(30 + 160·x − (30 + 30·x)), abs(30 + 30·x − (60 + 50
      ·x)), abs(60 + 50·x − (30 + 160·x))))/(max(30 + 160·x, 30 + 30·x, 60 + 50·x)
      − min(30 + 160·x, 30 + 30·x, 60 + 50·x)))
```

$$[29.9999999999999893, [x = 0.666666666666667]] \tag{7}$$