

State the max/min value of the expression and the corresponding value of x .

1. (a) $5(x - 1)^2 + 3$ (b) $\frac{1}{5(x - 1)^2 + 3}$

2. (a) $4 - (x + 2)^2$ (b) $\frac{1}{4 - (x + 2)^2}$

3. (a) $10 - 3(x - 4)^2$ (b) $\frac{1}{10 - 3(x - 4)^2}$

4. (a) $4(x + 1)^2 - 3$ (b) $\frac{1}{4(x + 1)^2 - 3}$

$$5. (a) \ 3(x + 2)^2 - 4 \quad (b) \ \frac{1}{3(x + 2)^2 - 4}$$

$$6. (a) \ 8 - 2(x + 5)^2 \quad (b) \ \frac{1}{8 - 2(x + 5)^2}$$

$$7. (a) \ 6 - 3(x - 1)^2 \quad (b) \ \frac{1}{6 - 3(x - 1)^2}$$

$$8. (a) \ 2(x + 3)^2 + 5 \quad (b) \ \frac{1}{2(x + 3)^2 + 5}$$