INEQUALITIES

Name

Class **Date**

ANSWERS

1a

1b

2a

2b

3a

3b

4a

4b

5a

5b

6a

6b

Evaluate the followings.

1 . **a .** $\sqrt{x} \geq 2 - x$

b . $1 - x \leq \sqrt{x+1}$

2 . **a .** $\sqrt{\log_x \sqrt{5x}} < -\log_x 5$

b . $\log_x 2x \leq \sqrt{\log_x \left(2x^3\right)}$

3 . **a .** $\log_8 \left(x^2 - 4x + 3\right) > tg\,\frac{\pi}{4}$

b . $\log_{\sqrt{2}} \frac{x^2 - 4x + 3}{4} < 2ctg\,\frac{\pi}{4}$

4 . **a .** $\log_{0,5} \left(x^2 - 3x + 4\right) - \log_{0,5} \left(x - 1\right) < -1$

b . $1 + \log_2 \left(x - 2\right) > \log_2 \left(x^2 - 3x + 2\right)$

5 . **a .** $5^{2\sqrt{x}} + 5 < 5^{\sqrt{x}+1} + 5^{\sqrt{x}}$

b . $3^{\sqrt{x}} + 3^{\sqrt{x}-1} - 3^{\sqrt{x}-2} < 11$

6 . **a .** $3^{2x^2+1} + 81^x < 4 \cdot 3^{x^2+2x}$

b . $(0,5)^{2x^2-3} + (0,5)^{4x-1} \geq 17 \cdot (0,5)^{x^2+2x}$

C

ANSWERS

7a

7b

8a

8b

9a

9b

10a

10b

11a

11b

7 . **a .** $\frac{1}{2}+\log_9 x-\log_3 5x>\log_{\frac{1}{3}}(x+3)$

b . $\log_2\left(1+\log_{\frac{1}{9}} x-\log_9 x\right)<1$

8 . **a .** $\sqrt{5-4^x}>2^x-1$

b . $\sqrt{10-9^x}>4-3^x$

9 . **a .** $\frac{\log_{0,5}(8-x)}{\log_2(x+4)}>0$

b . $\frac{\log_5(x+6)}{\log_{0,2}(10-x)}<0$

C