

**Logarithmic Equation**

ES1

Solve each logarithmic equation.

1)  $\log_5 (x+7) = \log_5 (2x+3)$

x =

2)  $\log_2 (x+20) = \log_2 2$

x =

3)  $\log_4 (3x-2) = \log_4 (x+18)$

x =

4)  $\log_3 (5x+6) = 2 \log_3 6$

x =

5)  $\log_6 (2x-1) = \log_6 27$

x =

6)  $\log_5 24 = \log_5 (x+2)$

x =

7)  $\log_7 (2x+1) = \log_7 (x+20)$

x =

8)  $\log_4 (5x-3) = \log_4 (2x+36)$

x =

9)  $3 \log_3 4 = \log_3 (x+10)$

x =

10)  $\log_6 4x = \log_6 100$

x =

11)  $\log_5 (2x+2) = \log_5 (3x-18)$

x =

12)  $\log_2 (x+17) = 3 \log_2 2$

x =

**Logarithmic Equation**

ES1

Solve each logarithmic equation.

1)  $\log_5 (x+7) = \log_5 (2x+3)$

$x = 4$

2)  $\log_2 (x+20) = \log_2 2$

$x = -18$

3)  $\log_4 (3x-2) = \log_4 (x+18)$

$x = 10$

4)  $\log_3 (5x+6) = 2 \log_3 6$

$x = 6$

5)  $\log_6 (2x-1) = \log_6 27$

$x = 14$

6)  $\log_5 24 = \log_5 (x+2)$

$x = 22$

7)  $\log_7 (2x+1) = \log_7 (x+20)$

$x = 19$

8)  $\log_4 (5x-3) = \log_4 (2x+36)$

$x = 13$

9)  $3 \log_3 4 = \log_3 (x+10)$

$x = 54$

10)  $\log_6 4x = \log_6 100$

$x = 25$

11)  $\log_5 (2x+2) = \log_5 (3x-18)$

$x = 20$

12)  $\log_2 (x+17) = 3 \log_2 2$

$x = -9$