

# PRINTABLE VERSION

## Quiz 23

### Question 1

Solve for  $x$ :

$$6^{6x-5} = 6^{5x-2}$$

- a)   $x = -\frac{7}{11}$
- b)   $x = \frac{1}{3}$
- c)   $x = -3$
- d)   $x = -\frac{1}{3}$
- e)   $x = 3$
- f)  None of the above

### Question 2

Solve for  $x$ :

$$5^{-9x-4} = \frac{1}{125}$$

- a)   $x = -\frac{1}{9}$
- b)   $x = 9$
- c)   $x = \frac{1}{9}$
- d)   $x = \frac{7}{9}$
- e)   $x = -9$
- f)  None of the above

### Question 3

Solve for  $x$ :

$$4^x = 21$$

- a)   $x = \log_4 21$
- b)   $x = \log(4)$
- c)   $x = \log(21)$
- d)   $x = \ln(4)$
- e)   $x = \log_{21} 4$
- f)  None of the above

#### Question 4

Find all solutions to:

$$11^{x+5} = 18$$

- a)   $x = \frac{\log(18)}{\log(11)} + 5$
- b)   $x = \log\left(\frac{18}{11}\right) - 5$
- c)   $x = \frac{\log(11)}{\log(18)} + 5$
- d)   $x = \frac{\log(11)}{\log(18)} - 5$
- e)   $x = \frac{\log(18)}{\log(11)} - 5$
- f)  None of the above

#### Question 5

Find all solutions to:

$$-4 + 7^{-9x-8} = -6$$

- a)  No solution
- b)   $x = \frac{\log_7(-10) - 8}{-9}$

- c)   $x = \frac{\log_7(-2) + 8}{-9}$
- d)   $x = \frac{\log_9(-2) + 8}{7}$
- e)   $x = \frac{\log_4(3) + 8}{7}$
- f)  None of the above

**Question 6**

Find all solutions to:

$$7e^{x+10} - 7 = 483$$

- a)   $x = \ln(-10) - 10$
- b)   $x = \ln(70) - 10$
- c)   $x = \ln(70) + 10$
- d)   $x = \ln(-70) - 10$
- e)   $x = \ln(-70) + 10$
- f)  None of the above

**Question 7**

Solve for  $x$ :

$$x^2 \cdot 9^x - 25 \cdot 9^x = 0$$

- a)   $x = 5, x = -5$
- b)   $x = 9, x = -9$
- c)   $x = -5$
- d)   $x = 25, x = -25$
- e)   $x = 5$
- f)  None of the above

**Question 8**

Solve for  $x$ :

$$2 \cdot 6^{x+5} + 3 = 0$$

- a)   $x = \log_6 \left( -\frac{3}{5} \right) - 2$
- b)   $x = \log_6 \left( -\frac{2}{3} \right) - 5$
- c)   $x = \log_6 \left( -\frac{3}{2} \right) + 5$
- d)   $x = \log_6 \left( -\frac{3}{2} \right) - 5$
- e)  No solution
- f)  None of the above

### Question 9

Solve for  $x$ :

$$5^{2x} - 5 \cdot 5^x - 14 = 0$$

- a)  No solution
- b)   $x = \log_5(7)$
- c)   $x = \log_5(2)$
- d)   $x = \log_5(2), x = \log_5(7)$
- e)   $x = -\log_5(2), x = -\log_5(7)$
- f)  None of the above

### Question 10

Solve for  $x$ :

$$\frac{30}{2^{x-7}} = 6$$

- a)   $x = \frac{\ln 5}{\ln 2} + 7$
- b)   $x = \frac{\ln 6}{\ln 2} + 7$

c)   $x = \frac{\ln 5}{\ln 2} + 6$

d)   $x = \frac{\ln 2}{\ln 5} + 7$

e)   $x = \frac{\ln 5}{\ln 6} + 7$

f)  None of the above