

แบบฝึกหัด 2

หาค่าจำนวนแต่ละข้อต่อไปนี้ (เติมคำตอบ)

ตัวอย่าง

$$0. \log_2 32 \Rightarrow a=2, y=32 \Rightarrow 2^x = 32; 32 = 2^5$$

$$\text{จะได้ว่า } \log_2 32 = 5$$

$$00. \log_2 \sqrt{32} \Rightarrow a=2, y=\sqrt{32} \Rightarrow 2^x = \sqrt{32}; \sqrt{32} = \sqrt{2^5} = (2^5)^{\frac{1}{2}} = (2)^{\frac{5}{2}} \text{ จะได้ว่า } \log_2 \sqrt{32} = \frac{5}{2}$$

$$000. \log_{\frac{1}{2}} \left(\frac{1}{32}\right) \Rightarrow a=\frac{1}{2}, y=\frac{1}{32} \Rightarrow \left(\frac{1}{2}\right)^x = \frac{1}{32}$$

$$0000. \log_{\frac{1}{2}} \sqrt{32} \Rightarrow a=\frac{1}{2}, y=\sqrt{32} \Rightarrow \left(\frac{1}{2}\right)^x = \sqrt{32}$$

$$\left(\frac{1}{2}\right)^x = 2^{-1} \Rightarrow \left(\frac{1}{2}\right)^x = (2^{-1})^x = 2^{-x}; \frac{1}{32} = \frac{1}{2^5} = 2^{-5}$$

$$\left(\frac{1}{2}\right)^x = 2^{-1} \Rightarrow \left(\frac{1}{2}\right)^x = (2^{-1})^x = 2^{-x}; \sqrt{32} = \sqrt{2^5} = (2^5)^{\frac{1}{2}} = 2^{\frac{5}{2}}$$

$$\left(\frac{1}{2}\right)^x = \frac{1}{32} \Rightarrow 2^{-x} = (2)^{-5} \Rightarrow -x = -5 \Rightarrow x = 5$$

$$\left(\frac{1}{2}\right)^x = \sqrt{32} \Rightarrow 2^{-x} = (2)^{\frac{5}{2}} \Rightarrow -x = \frac{5}{2} \Rightarrow x = -\frac{5}{2}$$

$$\text{จะได้ว่า } \log_{\frac{1}{2}} \frac{1}{32} = 5$$

$$\text{จะได้ว่า } \log_{\frac{1}{2}} \sqrt{32} = -\frac{5}{2}$$

$$00000. \log_{\sqrt{2}} \sqrt{32} \Rightarrow a=\sqrt{2}, y=\sqrt{32} \Rightarrow (\sqrt{2})^x = \sqrt{32}$$

$$\sqrt{2} = 2^{\frac{1}{2}} \Rightarrow (\sqrt{2})^x = (2^{\frac{1}{2}})^x = 2^{\frac{x}{2}}; \sqrt{32} = \sqrt{2^5} = (2^5)^{\frac{1}{2}} = 2^{\frac{5}{2}}$$

$$\text{จะได้ว่า } \log_{\sqrt{2}} \sqrt{32} = 5$$

$$(\sqrt{2})^x = \sqrt{32} \Rightarrow 2^{\frac{x}{2}} = (2)^{\frac{5}{2}} \Rightarrow \frac{x}{2} = \frac{5}{2} \Rightarrow x = 5$$

$$1. \log_2 8 = \dots\dots\dots$$

$$2. \log_5 25 = \dots\dots\dots$$

$$3. \log_{10} 10000 = \dots\dots\dots$$

$$4. \log_{15} 15 = \dots\dots\dots$$

$$5. \log_3 729 = \dots\dots\dots$$

$$6. \log_{10} \sqrt{10} = \dots\dots\dots$$

$$7. \log_2 32 = \dots\dots\dots$$

$$8. \log_3 27 = \dots\dots\dots$$

$$9. \log_9 \left(\frac{1}{9}\right) = \dots\dots\dots$$

$$10. \log_2 \sqrt{2} = \dots\dots\dots$$

$$11. \log_{16} 0.25 = \dots\dots\dots$$

$$12. \log_{\frac{1}{2}} 8 = \dots\dots\dots$$

$$13. \log_{\frac{2}{3}} \left(\frac{16}{81}\right) = \dots\dots\dots$$

$$14. \log_{\frac{1}{3}} \left(\frac{1}{9}\right) = \dots\dots\dots$$

$$15. \log_{\frac{1}{3}} \left(\frac{1}{27}\right) = \dots\dots\dots$$

$$16. \log_{\sqrt{2}} (8) = \dots\dots\dots$$

$$17. \log_a (a^{10}) = \dots\dots\dots$$

$$18. \log \left(\frac{2}{3}\right) \left(\frac{9}{4}\right) = \dots\dots\dots$$

$$19. \log_{\sqrt{3}} \left(\frac{1}{27}\right) = \dots\dots\dots$$

$$20. \log_2 (8\sqrt{2}) = \dots\dots\dots$$

$$21. \log_{\sqrt{2}} (4^2) = \dots\dots\dots$$

$$22. \log_3 \left(\frac{1}{3}\right)^5 = \dots\dots\dots$$

$$23. \log_4 (0.25); 0.25 = \frac{1}{4} = 4^{-1} = \dots\dots\dots$$

$$24. \log_{0.25} 16; 0.25 = \frac{1}{4} = 4^{-1} = \dots\dots\dots$$