Key

8.1 WS Exponential Functions & Transformations

1. $y = 32^x$ yes, $y = 32^x$
2. $y = 91x^3$ no
3. $y = \log x$ no
4. $y = 5 \cdot 2^x$ yes, $y = 2^x$
5. $y = (-26)^x + 1$ no
6. $y = 82 \cdot 7^{x+9}$ yes $y = 7^x$
7. $y = 324x^{-1}$ no
8. $y = 73 \cdot 4^{-x} + 9$ yes, $y = 4^x$
9. $y = 11^x - 45$ yes, $y = 11^x$
10. $y = 57 \cdot 4x^2$ no
11. $y = 7^x + 8$ yes, $y = 7^x$
12. $y = -7 \cdot 71^{-x} + 1$ yes, $y = 71^x$
13. $y = 14^{2x}$ yes, $y = 14^x$
14. $y = 8.$ no ...?
15. $y = 20 \cdot x^x$ no
16. $y = -3 \cdot 93^4$ no
17. $y = 32 \cdot -3^x$ yes, $y = 3^x$
18. $y = -5 \cdot 9^{-x+1}$ yes, $y = 9^x$
19. $y = -2 \cdot (-8)^x$ no

20. $f(x) = -3 \cdot 12^{x-1}$ ~ Raxa, $\rightarrow 1$
21. $y = 6^x - 7$ ~ $\downarrow 7$
22. $g(x) = -3(6)^{x+4} - 16$ ~ Raxa, Vsbfo 3, $\leftarrow 4$, $\downarrow 16$
23. $y = 9 \cdot 63^{x-2}$ ~ Vsbfo 9, $\rightarrow 2$
24. $y = -8^x + \frac{4}{3}$ ~ Raxa, $\uparrow \frac{4}{3}$
25. $y = -6(12)^{x+8} - \frac{3}{5}$ Raxa, Vsbfo 6, $\leftarrow 8$, $\downarrow \frac{3}{5}$
26. $y = 8(3)^x + 1$ Vsbfo 8, $\uparrow 1$
27. $y = 86^{x-1} - 8$ $\rightarrow 1$, $\downarrow 8$
28. $f(x) = -1(4)^{x+9} + 8$ Raxa, $\leftarrow 9$, $\uparrow 8$
29. $y = 7(46)^x + \frac{2}{5}$ Vsbfo 7, $\uparrow \frac{2}{5}$
30. $g(x) = -9^{x-5} + 3$ Raxa, $\rightarrow 5$, $\uparrow 3$

31. $y = 24(3)^{x-6} - 2$ Vsbfo 24, $\rightarrow 6$, $\downarrow 2$

32. $r(h) = -6 \cdot 4^{h} - \frac{1}{5}$ Raxa, Vsbfo 6, $\downarrow \frac{1}{5}$

33. $k(t) = 5^{t+1} + 8$ $\rightarrow 1$, $\uparrow 8$

34. $p(j) = -6(4)^{j-2} + 55$ Raxa, Vsbfo 6, $\rightarrow 2$, $\uparrow 55$

35. $y = -8(8)^{x+1} + \frac{1}{9}$ Raxa, Vsbfo 8, $\leftarrow 1$, $\uparrow 1/9$

36. $t(x) = 5 \cdot 4^{x+1} + 5$ Vsbfo 5, $\leftarrow 1$, $\uparrow 5$

37. $f(h) = -9(6)^{h-2}$ Raxa, Vsbfo 9, $\rightarrow 2$

38. $y = -8 \cdot 6^{x} - 9$ Raxa, Vsbfo 8, $\downarrow 9$

39. $k(g) = 59 \cdot 12^{g+4} - 76$ Vsbfo 59, $\leftarrow 4$, $\downarrow 76$

40. $g(x) = 12 \cdot 4^{x-2} + \frac{8}{3}$ Vsbfo 12, $\rightarrow 2$, $\uparrow \frac{8}{3}$

"Raxa" means "Reflection about x-axis"

"Vsbfo" means "Vertical Stretch by factor of"