

# Answers


$$\begin{aligned}
 1. \quad f(n) &= 8n + 12n \\
 f(-4) &= 8(-4) + 12(-4) \\
 &= -32 + (-48) = -32 - 48 \\
 &= 80
 \end{aligned}$$

$$\begin{aligned}
 2. \quad f(t) &= (-4^{(t-5)}) \\
 f(3) &= (-4^{(3-5)}) \\
 &= (-4^{(-2)}) = \frac{1}{-4^2} \\
 &= \frac{1}{16}
 \end{aligned}$$

$$\begin{aligned}
 3. \quad w(a) &= 11a^{-4} \div a^{-4} \\
 w(-3) &= 11(-3)^{-4} \div (-3)^{-4} \\
 &= 11 \times \frac{1}{-3^4} \div \frac{1}{-3^4} \\
 &= \frac{11}{81} \div \frac{1}{81} \\
 &= \frac{11}{81} \times \frac{81}{1} = 11
 \end{aligned}$$

$$\begin{aligned}
 4. \quad g(n) &= 6n - 2n^2 \\
 g(6) &= 6(6) - 2(6)^2 \\
 &= 36 - 72 = -36
 \end{aligned}$$

$$\begin{aligned}
 5. \quad h(m) &= (2m^2)(2m)^{-1} \\
 h(5) &= (2 \times 5^2)(2 \times 5)^{-1} \\
 &= 50 \times \frac{1}{(2 \times 5)^1} \\
 &= 50 \times \frac{1}{10} \\
 &= 5
 \end{aligned}$$

$$\begin{aligned}
 6. \quad f(p) &= |p^2 \cdot p^{-3} \cdot -p^5| \\
 f(2) &= |2^2 \cdot 2^{-3} \cdot -2^5| \\
 &= 4 \times \frac{1}{2^3} \times (-32) \\
 &= 4 \times \frac{1}{8} \times (-32) = -16
 \end{aligned}$$

$$\begin{aligned}
 7. \quad v(d) &= 4^{(d+2)} \div (2 \cdot 2^2) \\
 v(1) &= 4^{(1+2)} \div 8 \\
 &= 4^3 \div 8 = 64 \div 8 = 8
 \end{aligned}$$

$$\begin{aligned}
 8. \quad g(b) &= 10b^b - 20b^{-2b} \\
 g(2) &= 10(2)^2 - 20(2)^{-2(2)} \\
 &= 40 - 20 \times \frac{1}{2^4} \\
 &= 40 - 20 \times \frac{1}{16} \\
 &= 40 - 1.25 = 38.75
 \end{aligned}$$

$$\begin{aligned}
 9. \quad f(x) &= x^{(x-1)} \div x^{(1-x)} \\
 f(4) &= 4^{(4-1)} \div 4^{(1-4)} \\
 &= 4^3 \div 4^{-3} = 4 \div \frac{1}{4^3} \\
 &= 4 \times 64 = 256
 \end{aligned}$$

$$\begin{aligned}
 10. \quad d(h) &= (4h+2h) \div h^2 \\
 d(2) &= (4(2) + 2(2)) \div 2^2 \\
 &= (8 + 4) \div 4 \\
 &= 12 \div 4 = 3
 \end{aligned}$$

$$\begin{aligned}
 11. \quad s(t) &= |t^t - 21.3t| \\
 s(2) &= |2^2 - 21.3(2)| \\
 &= |4 - 42.6| = 38.6
 \end{aligned}$$

$$\begin{aligned}
 12. \quad m(h) &= (h^{-3})(h^h) \\
 m(2) &= (2^{-3})(2^2) \\
 &= \frac{1}{2^3} \times 4 = \frac{1}{8} \times 4 \\
 &= 0.5
 \end{aligned}$$

$$\begin{aligned}
 13. \quad k(a) &= |2^{(3a-4a)}| \\
 y(-3) &= |2^{3(-3)-4(-3)}| \\
 &= |2^{-9+12}| = 2^3 = 8
 \end{aligned}$$

$$\begin{aligned}
 14. \quad w(d) &= 26d^{(3d-9)} \\
 w(3) &= 26(3)^{3(3)-9} \\
 &= 26(3)^0 = 26 \times 1 = 26
 \end{aligned}$$

$$\begin{aligned}
 15. \quad g(n) &= 8n^2 - 2n^2 \\
 g(8) &= 8(8)^2 - 2(8)^2 \\
 &= 8(64) - 2(64) \\
 &= 512 - 128 = 384
 \end{aligned}$$