ILLAWARRA TUTORING

In this worksheet you will learn how to use substitution effectively by replacing variables with numerical values to evaluate expressions. Carefully follow the given instructions in each question.

Easy Questions

1. Evaluate $3x + 5$ when $x = 2$.
2. Evaluate $2x - 4$ when $x = -3$.
3. Evaluate $x^2 + 2x$ when $x = 5$.
4. Evaluate $4x^2 - 7$ when $x = 0$.
5. Evaluate $6x + 2$ when $x = 1.5$.

Intermediate Questions

6. Evaluate $2x + 3y$ when $x = 4$ and $y = -2$.
7. Evaluate $x^2 - y^2$ when $x = 5$ and $y = 3$.
8. Evaluate $3a + 4b - 5c$ when $a = 2$, $b = 1$, and $c = -1$.
9. Evaluate $5m^2 - 2m + 7$ when $m = -2$.
10. Evaluate $\dfrac{x + y}{z}$ when $x = 6$, $y = 2$, and $z = 4$.
11. Evaluate $4(x - 3)$ when $x = 10$.
12. Evaluate $(2p + 3)^2$ when $p = 1$.
13. Evaluate $\dfrac{2x - 3}{x + 1}$ when $x = 2$.
14. Evaluate $7 - 2(x + 3)$ when $x = -1$.
15. Evaluate $3(2x - 1) + 4$ when $x = 2$.
16. Evaluate $\dfrac{3a + 5}{2}$ when $a = 4$.
17. Evaluate $(x + 2)(x - 2)$ when $x = 6$.

18. Evaluate $2(x-y)^2$ when $x=3$ and $y=1$.
19. Evaluate $3x^2-2xy+y^2$ when $x=2$ and $y=3$.
20. Evaluate $\dfrac{2x+3y-z}{5}$ when $x=3$, $y=1$, and $z=-2$.

Hard Questions

21. Evaluate $\dfrac{2(3x-4)+5}{x+2}$ when $x=2$.
22. Evaluate $\dfrac{(2x+3)^2-(x-1)^2}{x}$ when $x=3$.
23. Evaluate $\dfrac{5a-\frac{3b}{2}}{1-\frac{b}{4a}}$ when $a=2$ and $b=4$.
24. Evaluate $\dfrac{2x^2-3x+1}{x-1}$ when $x=3$.
25. Evaluate $\dfrac{x^3-8}{x-2}$ when $x=4$.
26. Let $f(x)=\dfrac{2x+1}{3}$. Evaluate $f(2x)$ when $x=4$.
27. Evaluate $\sqrt{(3x+4)^2}$ when $x=-2$.
28. Evaluate $\dfrac{4x+3}{2x-1}-\dfrac{x-2}{x+3}$ when $x=3$.
29. Evaluate $\dfrac{2(x+3)-(x-1)}{x+2}$ when $x=-1$.
30. Given $g(t)=t^2-4t+4$, evaluate $g(2t)$ when $t=3$.