

You must complete this exam within 45 minutes. No calculators allowed.

1. Find numbers a and b such that $a - (b - 1) \neq a - b - 1$.

2. Simplify: $\sqrt{50p^{12}q^{10}} = ?$

3. Simplify: $7b - 4(x - 3) - 3(2 + b) = ?$

4. Simplify: $\frac{8a^4b^3 - 12a^3b^2}{4a^3b} = ?$

5. Simplify: $\frac{5a^3 - 5}{2a} \cdot \frac{6a^2}{a^4 - a} = ?$

6. $p = b/(b + a)$, $p^{-1} = ?$

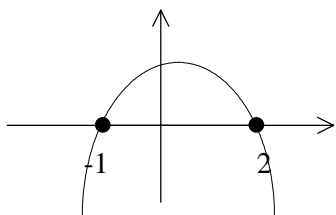
7. Write as one fraction. $\frac{1}{x} - \frac{x}{y} = ?$

8. Solve for x : $2x^2 = x + 3$.

9. $h(x) = \frac{3-x}{x+1}$, $h(-2) = ?$

10. $81^{3/4} \cdot 16^{1/4} = ?$

11. Where is the function pictured > 0 ?



12. Find the coordinates (x, y) of the point of intersection of the graphs of $x + y = -1$, $-2x - 3y = 1$.

13. Find the slope of the line $2x - 3y = 5$.

14. Find the surface area of a box (rectangular solid) without a top with height h , length l and width w .

15. Graph $y = x^2 + 2x - 3$.

16. Graph $|x + 2|$.

17. $g(x) = 2^{-x} - x^5$. $g(-1) = ?$

18. Solve for x . $\log_3(x - 2) = 1$.

19. Graph $f(x) = (1/3)^x$

20. If 2^{10} is approximately equal to 10^3 , then find the power of 10 which is nearest to 2^{30} .

21. Find the distance between the following points of the plane: $P = (1, 0)$ and $Q = (-2, -1)$.

22. $g(x) = \sqrt{x}$, $g(x+9) = ?$

23. Write t in terms of x . $x = e^{1-2t}$.

24. Find a function involving logarithms which has one root, $x = -1$, and has one vertical asymptote, $x = -2$.

25. Graph $y = \frac{1}{4}x - 1$.

26. $f(x) = \frac{x-1}{x}$, $f(f(x)) = ?$

27. Solve for y . $|5 - y| < 2$.

28. Find $g(f(x))$ where $f(x) = 1 - x$, $g(x) = 1/x$.

29. $f(x) = \frac{x+1}{x}$. For which x is $f(x) = 3$?

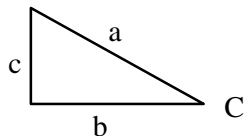
30. Find the domain of $f(x) = 1/(1 - \sqrt{x})$.

31. $\tan(0) = ?$

32. Simplify: $\cot \theta \tan \theta$

33. Simplify: $\sin^2 \theta + \frac{1}{\sec^2 \theta}$

34. $\sin(C) = 3/4$, $c = 2$. Find a .



35. Graph over one period which starts with 0. $\sin(2x)$.

The range of numbers following some problem numbers, e.g., 1(170-176), are the corresponding page numbers in *Cliff's Math Review for Standardized Tests*. Send comments or questions about this exam to: www.math.hawaii.edu/~dale

Courses and their required Assessment Exam scores:

Math 140:17, Math 203:17, Math 215:22, Math 241:25, Math 251:30

1(170-176). $a = 1, b = 1$

2(170-176). $5p^6q^5\sqrt{2}$

3(128-130). $-4x + 4b + 6$

4(128-139). $2ab^2 - 3b$

5(149-159). 15

6(63-66). $(b + a)/b$

7(149-159). $\frac{y - x^2}{xy}$

8(146-149). $x = -1, 3/2$

9(110-112). -5

10. 54

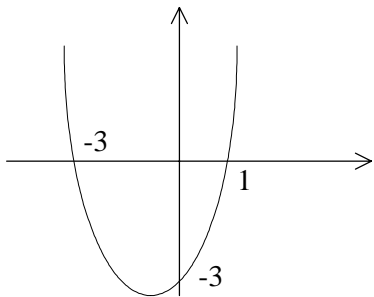
11. $-1 < x < 2$

12(122-127). $(-2, 1)$

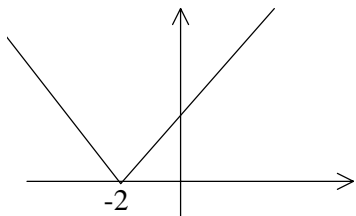
13. $2/3$

14(241-246). $wl + 2hl + 2hw$

15.



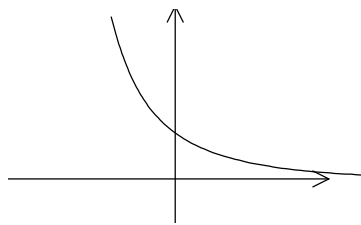
16.



17. 3

18. $x = 5$

19.



20. 10^9

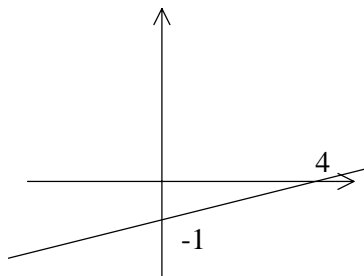
21(371). $\sqrt{10}$

22. $\sqrt{x+9}$

23. $t = (1 - \ln x)/2$

24. $\ln(x + 2)$

25(166-170).



26. $1/(1-x)$

27(159-161). $3 < y < 7$

28. $1/(1-x)$

29. $x = 1/2$

30. $x \geq 0$ and $x \neq 1$

31. 0

32. 1

33. 1

34. $8/3$

35.

