The shaded region shown represents the solutions to which inequality?

A. $y < 1 + 4x$

B. $y < 1 - 4x$

C. $y > 1 + 4x$

D. $y > 1 - 4x$

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The function f is defined by $f(x) = mx + b$, where m and b are constants. If $f(0) = 18$ and $f(1) = 20$, what is the value of m ?

$$\tfrac{1}{4}(x+5) - \tfrac{1}{3}(x+5) = -7$$

What value of x is the solution to the given equation?

A. -12

B. -5

C. 79

D. 204

What is the slope of the graph of $y = \frac{1}{4}(27x + 15) + 7x$ in the *xy*-plane?

$$5x + 3y = 38$$
$$x + 3y = 10$$

In the solution (x, y) to the system of equations above, what is the value of x ?

x	y
-6	$n + 184$
-3	$n + 92$
0	n

The table shows three values of x and their corresponding values of y, where n is a constant, for the linear relationship between x and y. What is the slope of the line that represents this relationship in the xy-plane?

A. $-\frac{92}{3}$

B. $-\frac{3}{92}$

C. $\frac{n+92}{-3}$

D. $\frac{2n-92}{3}$

Megan's regular wage at her job is p dollars per hour for the first 8 hours of work in a day plus 1.5 times her regular hourly wage for work in excess of 8 hours that day. On a given day, Megan worked for 10 hours, and her total earnings for that day were $137.50. What is Megan's regular hourly wage?

A. $11.75

B. $12.50

C. $13.25

D. $13.75

Which of the following systems of linear equations has no solution?

A. $x = 3$
$y = 5$

B. $y = 6x + 6$
$y = 5x + 6$

C. $y = 16x + 3$
$y = 16x + 19$

D. $y = 5$
$y = 5x + 5$

If $f(x) = x + 7$ and $g(x) = 7x$, what is the value of $4f(2) - g(2)$?

A. -5

B. 1

C. 22

D. 28

The function f is defined by $f(x) = \frac{x+15}{5}$, and $f(a) = 10$, where a is a constant. What is the value of a?

A. 5

B. 10

C. 35

D. 65