CW #18 PP501-502 #18, 20, 22 ,25, 27, 32 Name_____

18. Graph the relation and connect the points. Then graph the inverse. Identify the domain and range of each relation.

Relation:

x	-1	2	3	5
y	1	3	5	5

Domain: $-1 \le x \le 5$

Range: $1 \le y \le 5$

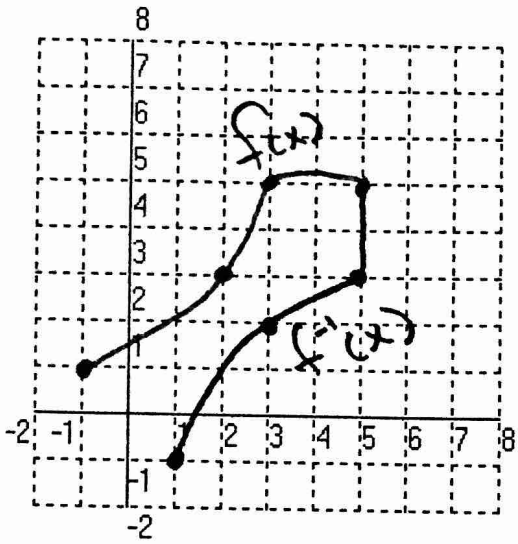
Inverse:

x	1	3	5	5
y	-1	2	3	5

Domain: $1 \le x \le 5$

Range: $-1 \le y \le 5$

$[-1, 5]$



Given $f(x)$, find the equation of its inverse, $f^{-1}(x)$.

20. $f(x) = .825x$

$\frac{x}{.825} = \frac{.825y}{.825}$

$y^{-1} = \frac{x}{.825}$

$f^{-1}(x) = \frac{x}{.825}$

22. $f(x) = \frac{x}{.25}$

$(.25)\,x = \frac{y}{.25}(.25)$

$y^{-1} = .25x$

$f^{-1}(x) = .25x$

25. $f(x) = \frac{1}{15}x + 12$

$x = \frac{1}{15}y + 12$

$-12 \qquad -12$

$\cancel{15} \cdot \frac{y}{\cancel{15}} = (x-12)15$

$y^{-1} = 15x - 180$

$f^{-1}(x) = 15x - 180$

27. $f(x) = -\frac{1}{3}x + 2$

$x = -\frac{1y}{3} + 2$

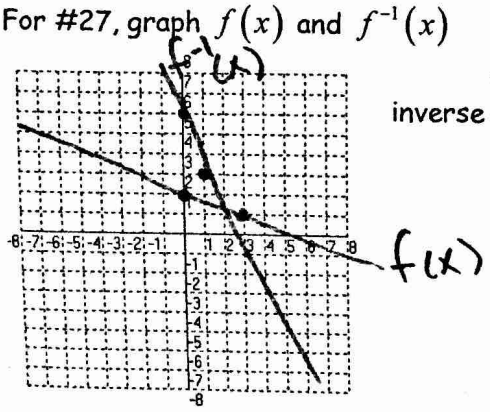
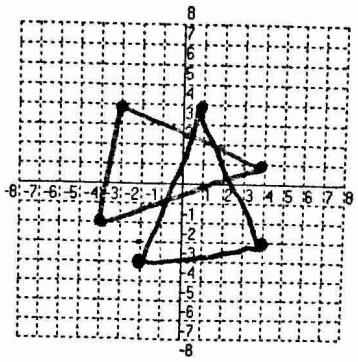
$-2 \qquad -2$

$(3)\,x - 2 = -\frac{1y}{3}(3)$

$\frac{-1y}{-1} = \frac{3x-6}{-1}$

$y^{-1} = -3x + 6$

For #27, graph $f(x)$ and $f^{-1}(x)$



32. A triangle has vertices A(-4,-2), B(-3,4) and C(4,1). Graph the triangle. Then find the coordinates of the vertices of t he inverse and graph that triangle, also.