

Name : _____

Score : _____

Teacher : _____

Date : _____

Inverses of Functions

Determine whether the functions are inverses.

$$1) \quad f(r) = \frac{5}{11}r + 7$$
$$g(r) = \frac{11(r-7)}{5}$$

$$2) \quad f(n) = \frac{7-7n}{3}$$
$$g(n) = \frac{3n+7}{-7}$$

$$3) \quad f(m) = -2m - 6$$
$$g(m) = 10m + 10$$

$$4) \quad f(b) = (b + 5)^2$$
$$g(b) = b^{\frac{1}{2}} - 5$$

$$5) \quad f(d) = 10(d - 9)^2$$
$$g(d) = 10d^{\frac{1}{2}} + 9$$

$$6) \quad f(s) = 8s$$
$$g(s) = \frac{1}{8}s + 11$$

Find the inverse of each function.

$$7) \quad f(q) = \frac{3}{2}q + 11$$

$$8) \quad f(z) = \frac{10+3z}{3}$$

$$9) \quad f(k) = 5k + 9$$

$$10) \quad f(w) = (w + 5)^2$$

$$11) \quad f(y) = -9(y - 7)^3$$

$$12) \quad f(x) = 9x$$



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Yes

2) $f(n) = \frac{7-7n}{3}$

$g(n) = \frac{3n+7}{-7}$

No

3) $f(m) = -2m - 6$

$g(m) = 10m + 10$

No

4) $f(b) = (b + 5)^2$

$g(b) = b^{\frac{1}{2}} - 5$

Yes

5) $f(d) = 10(d - 9)^2$

$g(d) = 10d^{\frac{1}{2}} + 9$

No

6) $f(s) = 8s$

$g(s) = \frac{1}{8}s + 11$

No

Find the inverse of each function.

7) $f(q) = \frac{3}{2}q + 11$

$f^{-1}(q) = \frac{2(q-11)}{3}$

8) $f(z) = \frac{10+3z}{3}$

$f^{-1}(z) = \frac{3z-10}{3}$

9) $f(k) = 5k + 9$

$f^{-1}(k) = \frac{k-9}{5}$

10) $f(w) = (w + 5)^2$

$f^{-1}(w) = w^{\frac{1}{2}} - 5$

11) $f(y) = -9(y - 7)^3$

$f^{-1}(y) = \left(\frac{y}{-9}\right)^{\frac{1}{3}} + 7$

12) $f(x) = 9x$

$f^{-1}(x) = \frac{x}{9}$

