Name_____

Calculus Practice 2.1C6: Derivatives of Inverse Functions 1b

For each problem, find $\left(f^{-1}\right)'(a)$

1) $f(x) = 3x + 5,\ a = -2$

2) $f(x) = 4x - 3,\ a = -2$

3) $f(x) = 4x + 2,\ a = -3$

4) $f(x) = -2x + 1,\ a = 2$

5) $f(x) = 2x + 3,\ a = -3$

6) $f(x) = -2x + 5,\ a = 3$

7) $f(x) = \sqrt[3]{x - 1},\ a = 2$

8) $f(x) = \sqrt[3]{2x - 1},\ a = 3$

9) $f(x) = \sqrt{3x + 2},\ a = 2$

10) $f(x) = \sqrt{x + 3},\ a = 3$

11) $f(x) = 2x^2 + 2, x \geq 0, a = 4$

12) $f(x) = \sqrt[3]{-x + 2}, a = 3$

13) $f(x) = 4x^5 + 3x + 5, a = 5$

14) $f(x) = 2x^7 + 2x - 5, a = -5$

15) $f(x) = 2x^7 + 5x + 5, a = 5$

16) $f(x) = 2x^7 + 4x + 4, a = 4$

17) $f(x) = 5x^3 + x + 4, a = 4$

18) $f(x) = x^5 + 4x - 1, a = -1$

19) $f(x) = 4x^5 + 2x + 4, a = 4$

20) $f(x) = 4x^3 + 4x + 1, a = 9$

Name_____

Calculus Practice 2.1C6: Derivatives of Inverse Functions 1b

For each problem, find $\left(f^{-1}\right)'(a)$

1) $f(x) = 3x + 5, a = -2$

$$\left(f^{-1}\right)'(a) = \frac{1}{3}$$

2) $f(x) = 4x - 3, a = -2$

$$\left(f^{-1}\right)'(a) = \frac{1}{4}$$

3) $f(x) = 4x + 2, a = -3$

$$\left(f^{-1}\right)'(a) = \frac{1}{4}$$

4) $f(x) = -2x + 1, a = 2$

$$\left(f^{-1}\right)'(a) = -\frac{1}{2}$$

5) $f(x) = 2x + 3, a = -3$

$$\left(f^{-1}\right)'(a) = \frac{1}{2}$$

6) $f(x) = -2x + 5, a = 3$

$$\left(f^{-1}\right)'(a) = -\frac{1}{2}$$

7) $f(x) = \sqrt[3]{x - 1}, a = 2$

$$\left(f^{-1}\right)'(a) = 12$$

8) $f(x) = \sqrt[3]{2x - 1}, a = 3$

$$\left(f^{-1}\right)'(a) = \frac{27}{2}$$

9) $f(x) = \sqrt{3x + 2}, a = 2$

$$\left(f^{-1}\right)'(a) = \frac{4}{3}$$

10) $f(x) = \sqrt{x + 3}, a = 3$

$$\left(f^{-1}\right)'(a) = 6$$

11) $f(x) = 2x^2 + 2$, $x \geq 0$, $a = 4$

$\left(f^{-1}\right)'(a) = \dfrac{1}{4}$

12) $f(x) = \sqrt[3]{-x+2}$, $a = 3$

$\left(f^{-1}\right)'(a) = -27$

13) $f(x) = 4x^5 + 3x + 5$, $a = 5$

$\left(f^{-1}\right)'(a) = \dfrac{1}{3}$

14) $f(x) = 2x^7 + 2x - 5$, $a = -5$

$\left(f^{-1}\right)'(a) = \dfrac{1}{2}$

15) $f(x) = 2x^7 + 5x + 5$, $a = 5$

$\left(f^{-1}\right)'(a) = \dfrac{1}{5}$

16) $f(x) = 2x^7 + 4x + 4$, $a = 4$

$\left(f^{-1}\right)'(a) = \dfrac{1}{4}$

17) $f(x) = 5x^3 + x + 4$, $a = 4$

$\left(f^{-1}\right)'(a) = 1$

18) $f(x) = x^5 + 4x - 1$, $a = -1$

$\left(f^{-1}\right)'(a) = \dfrac{1}{4}$

19) $f(x) = 4x^5 + 2x + 4$, $a = 4$

$\left(f^{-1}\right)'(a) = \dfrac{1}{2}$

20) $f(x) = 4x^3 + 4x + 1$, $a = 9$

$\left(f^{-1}\right)'(a) = \dfrac{1}{16}$