Calculus practice

This is solely for your practice with calculus. I will grade more tricky derivatives in future homeworks!

Answers are on the next page.

$f(x)=7x^3+4x-8$ Find $f'(x)$ Find $f'(3)$

$g(x)=x^8-15x^2+42$ Fing $g'(x)$ For what x values does $g'(x)=0$?

$h(x)=22\log(x)$ Find $h'(x)$

$r(x)=\frac{10}{x^2+3x}$ Find $r'(x)$ Find $r'(2)$

Calculus answers:

$f(x)=7x^3+4x-8$	Find f ’(x) $21x^2+4$	Find f ’(3) 21*9+4 = 189+4 = 193
$g(x)=x^8 - 15x^2 + 42$	Fing g’(x) $8x^7-30x$	For what x values does g’(x)=0? $80x^7-30x=0$ -> x=0 or $80x^6=30$ x=0 or $x = \left(\frac{3}{8}\right)^{1/6}$
$h(x)=22\log(x)$	Find h’(x) $\frac{22}{x}$	
$r(x)=\frac{10}{x^2+3x}$	Find r’(x) $\frac{-10(2x+3)}{(2x^2+3x)^2}$	Find r’(2) $\frac{-10(4+3)}{(2\times4+6)^2} = \frac{-70}{14^2} = \frac{-70}{196}$

take derivative of (x^2+3x), multiply by derivative of $\frac{10}{y}$ and insert $(2x^2+3x)$ for y