

Calculus CH.P HW WS

Name: _____

Per. _____

Solve the inequalities

1) $3x - 8 > -32$

2) $x^2 - 9 < 0$

3) $\frac{(5x-7)^2}{(x+1)(x-5)^3} \geq 0$

4) $|5x - 2| \leq 7$

5) $|2x + 3| \geq -3$

6) $|2x + 3| < -3$

7) Given the line $8x + 7y - 6 = 0$, find :
The line \perp through the point $(-3, 8)$ 8) Given the line $y = 11x + 9$, find :
The line parallel through the point $(-1, 5)$

9) Write the equation that passes thru the following points :

a) $(-3, 6)$ and $(2, 7)$

b) $(4, -6)$ and $(4, 11)$

c) $(10, -3)$ and $(7, -3)$

Find the domain for each

10) $g(x) = x^2$

11) $x = 5$

12) $g(x) = \log x$

13) $f(x) = \frac{x+5}{x^2-3x-40}$

14) $g(x) = \sqrt{12x+7}$

15) $f(x) = \frac{\sqrt{x+13}}{x-2}$

16) $f(x) = \frac{\sqrt{x+1}}{x+2}$

17) $f(x) = \sqrt{17-x}$

18) $f(x) = \frac{5-x}{x^2+2}$

Composition of Functions

19) $f(x) = 3x - 5$

$$g(x) = \frac{5}{3+x}$$

$$h(x) = x^2$$

$$k(x) = 7$$

$$f \circ g =$$

$$g \circ k =$$

$$g \circ h =$$

$$h \circ f =$$

$$k \circ h =$$

$$h \circ h =$$

$$(f \circ g)(7) =$$

$$(g \circ h)(-8) =$$

$$(f \circ k)(-8) =$$

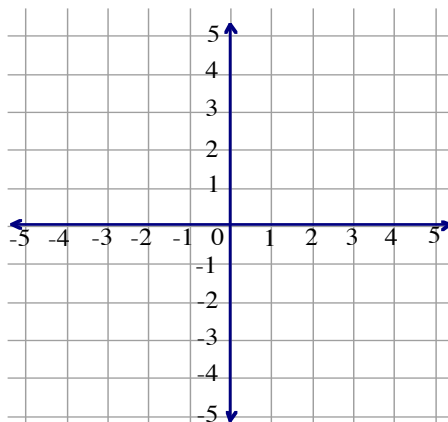
$$(h \circ f)(-2) =$$

$$(k \circ f)(3) =$$

$$(h \circ h)(2) =$$

20) **Sketch**

$$f(x) = \left\{ \begin{array}{ll} x & \text{for } x < -1 \\ 2x^2 & \text{for } -1 \leq x \leq 2 \\ 4 & \text{for } x > 2 \end{array} \right\}$$



Find each

21a) $\sin 0^\circ =$

b) $\sin 90^\circ =$

c) $\sin 180^\circ =$

d) $\sin 270^\circ =$

e) $\sin 360^\circ =$

22a) $\cos 0^\circ =$

b) $\cos 90^\circ =$

c) $\cos 180^\circ =$

d) $\cos 270^\circ =$

e) $\cos 360^\circ =$

23a) $\tan 0^\circ =$

b) $\tan 90^\circ =$

c) $\tan 180^\circ =$

d) $\tan 270^\circ =$

e) $\tan 360^\circ =$

Find each

24a) $\sin 30^\circ =$

b) $\sin 45^\circ =$

c) $\sin 60^\circ =$

d) $\sin 150^\circ =$

e) $\sin 225^\circ =$

f) $\sin 300^\circ =$

25a) $\cos 30^\circ =$

b) $\cos 45^\circ =$

c) $\cos 60^\circ =$

d) $\cos 150^\circ =$

e) $\cos 225^\circ =$

f) $\cos 300^\circ =$

26a) $\tan 30^\circ =$

b) $\tan 45^\circ =$

c) $\tan 60^\circ =$

d) $\tan 150^\circ =$

e) $\tan 225^\circ =$

f) $\tan 300^\circ =$

Solve for x from $[0, 2\pi]$

27a) $\sin \theta = 0$

b) $\sin \theta = 1$

c) $\sin \theta = -1$

28a) $\cos \theta = 0$

b) $\cos \theta = 1$

c) $\cos \theta = -1$

29a) $\tan \theta = 0$

b) $\tan \theta = \text{undef.}$

30a) $\cos x = \frac{1}{2}$

b) $\sin x = \frac{-\sqrt{2}}{2}$

c) $\tan x = \frac{1}{\sqrt{3}}$

31a) $\cos x = \frac{-\sqrt{3}}{2}$

b) $\sin x = \frac{\sqrt{3}}{2}$

c) $\tan x = -1$