

EXTRA CREDIT HOME WORK

10 points and 4 pages)

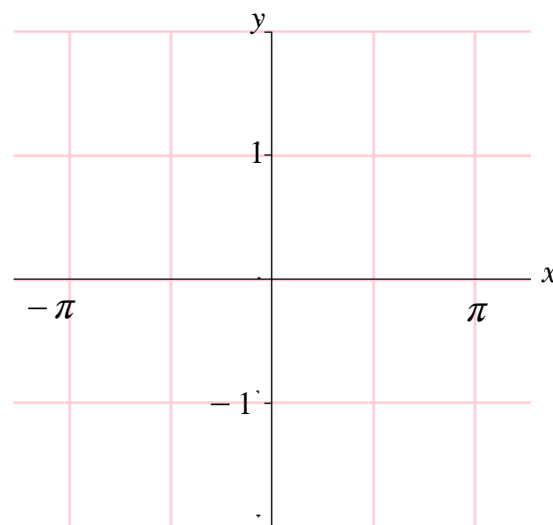
NAME: _____

(Please Print)

5.0 SOLVE: $\sin 2x = \frac{1}{\sqrt{2}}$ and $x \in [-\pi, \pi]$

Call the solution set S , find S and $n(S)$.

and SKETCH the LHS and the RHS on the given domain
to illustrate the solutions.



ANS: $S = \left\{ \frac{-7\pi}{8}, \frac{-5\pi}{8}, \frac{\pi}{8}, \frac{3\pi}{8} \right\}, n(S) = 4$

8.0

Evaluate the following sums.

ANS: a) $\boxed{12}$

ANS: b) $\boxed{12}$

ANS: c) $\boxed{10}$

a) $\sum_{k=1}^3 (k+2)$

b) $\sum_{k=1}^3 (3k-2)$

c) $\sum_{k=0}^3 (3k^2-8)$

c) $\sum_{k=0}^3 (3k^2-8)$

8.1

GIVEN: $\sum_{k=4}^{10} (k^2 - 2k) = 273$

FIND:

a) $\sum_{k=3}^{10} (k^2 - 2k)$

ANS: a) $\boxed{276}$

ANS: b) $\boxed{193}$

b) $\sum_{k=4}^9 (k^2 - 2k)$

8.3

Use the formulas:

$$(I) \sum_{k=1}^n 1 = n$$

$$(II) \sum_{k=1}^n k = \frac{n(n+1)}{2}$$

$$(III) \sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$$

$$ANS: a) \boxed{10}$$

$$ANS: b) \boxed{17}$$

$$ANS: c) \boxed{30}$$

$$ANS: d) \boxed{48}$$

Evaluate the following sums.

$$a) \sum_{k=1}^4 (k^2 + 2k - 10)$$

$$b) \sum_{k=2}^4 (k^2 + 2k - 10)$$

$$c) \sum_{k=1}^4 (3k^2 - 2k - 10)$$

$$d) \sum_{k=3}^5 (3k^2 - 6k - 10)$$