1) x = a number

$5x - 8 < 33$
$5x < 41$
$x < 8.2$

The largest possible integer is 8.

2) x = 1st cons odd int
$x+2$ = 2nd cons odd int

$x + x + 2 \leq 3x + 5$
$2x + 2 \leq 3x + 5$
$2x \leq 3x + 3$
$-x \leq 3$
$x \geq -3$

The smallest possible integers are -3 and -1.

3) x = number of miles

$6 + 4(x-1) \leq 13$
$6 + 4x - 4 \leq 13$
$2 + 4x \leq 13$
$4x \leq 11$
$x \leq 2.75$

A person can travel at most 2.75 miles.

4) x = # of people

PP < TT
$3200 + 40x < 2500 + 45x$
$700 + 40x < 45x$
$700 < 5x$
$140 < x$

141 or more people must attend for Perfect Party to be less expensive

5) x = length
$2x - 20$ = width

$2x + 2(2x-20) > 125$
$2x + 4x - 40 > 125$
$6x - 40 > 125$
$6x > 165$
$x > 27.5$

$2(28) - 20 = 36$

The smallest possible whole number dimensions are 28cm and 36cm.

6) x = # of miles

$A < B$
$40 + .08x < 28 + .13x$
$12 + .08x < .13x$
$12 < .05x$
$240 < x$

Must drive more than 240 miles for Co. A to be cheaper

7) x = # of hours

$.75(35x) \geq 550$
$26.25x \geq 550$
$x \geq 20.9$

He must work at least 21 hours.

8)

	Val	Qty	Tot Val
nickels	5	$2x$	$10x$
dimes	10	x	$10x$
quarters	25	$\frac{1}{3}(2x)$	$\frac{50}{3}x$

$10x + 10x + \frac{50}{3}x \leq 500$
$\frac{110}{3}x \leq 500$
$x \leq 13.6$

$\frac{1}{3}(26) = 8\frac{2}{3}$

At most 13 dimes, 26 nickels and 8 quarters