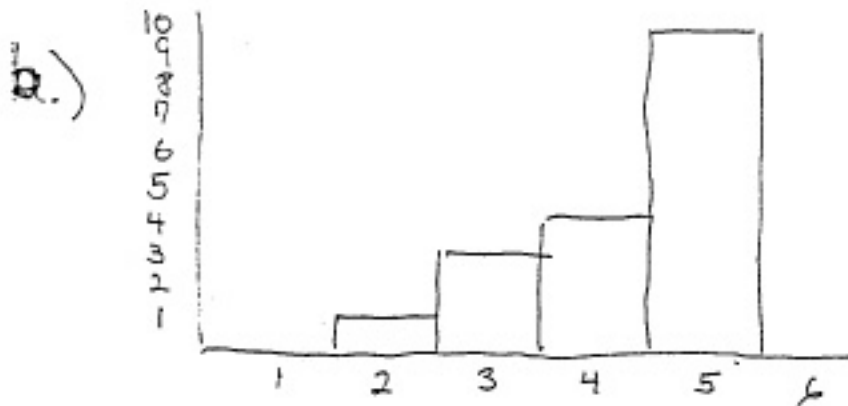


4) Reading Comprehension Scores for 3rd grade class of 18 students:



a)

X	f
5	10
4	4
3	3
2	1

- c) 1) Distribution is negatively skewed
2) As a whole, the class is much above average

6) a) $N=14$ b.) $\sum X = 33$

X	f	Fx
4	2	8
3	4	12
2	5	10
1	3	3
$N=14$		$\sum X = 33$

9) $N = \sum f = 13$ $\sum X = 38$ $\sum X^2 = 128$

X	f	fX
5	1	5
4	3	12
3	5	15
2	2	4
1	2	2

$\sum F = 1 + 3 + 5 + 2 + 2 = 13$

$\sum X = \sum fX = 5 + 12 + 15 + 4 + 2 = 38$

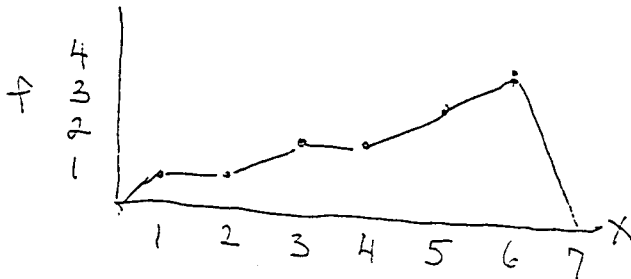
$\sum X^2 = 5^2 + 4^2 + 4^2 + 4^2 + 3^2 + 3^2 + 3^2 + 3^2 + 2^2 + 2^2 + 1^2 + 1^2 = 128$

(12)

a)

X	f
6	4
5	3
4	2
3	2
2	1
1	1

b)



(13)

- c)
- 1) Distribution is negatively skewed
 - 2) Scores are centered around $X=4$ or $X=5$
 - 3) The scores are piled up around $X=5$ or $X=6$, but they are spread across the entire scale

(14)

a)

30-31	1
28-29	2
26-27	2
24-25	3
22-23	5
20-21	5
18-19	5
16-17	3
14-15	1
12-13	1

b)

X	f
30-34	1
25-29	5
20-24	12
15-19	8
10-14	2

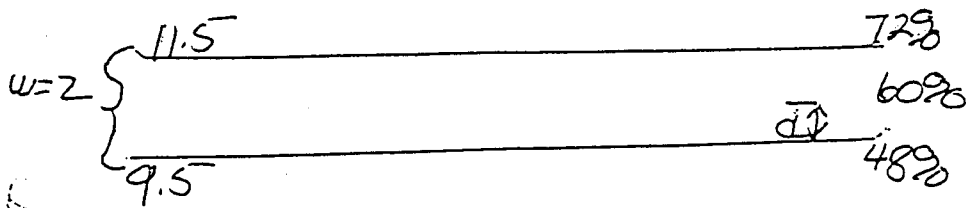
(19)

X	f	c.f	CP	% = P(100)
14-15	2	25	$\frac{25}{25} = 1.0$	100%
12-13	5	23	$\frac{23}{25} = .92$	92%
10-11	6	18	$\frac{18}{25} = .72$	72%
8-9	7	12	$\frac{12}{25} = .48$	48%
6-7	4	5	$\frac{5}{25} = .20$	20%
4-5	1	1	$\frac{1}{25} = .04$	4%

a) 20th percentile is 7.5

b) Percentile rank for $x=11.5$ is 72%

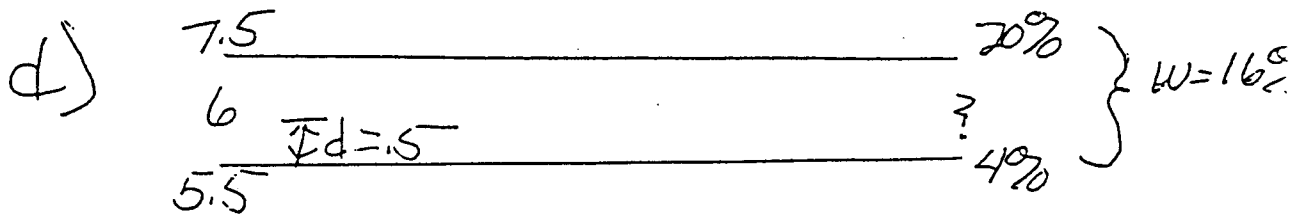
c) Find 60th percentile



$\therefore \frac{1}{2}$ of 2 = 1.0

$d = 60\% - 48\% = 12\%$

$9.5 + 1.0 = \boxed{10.5}$ is the 60th percentile
 fraction = $\frac{d}{w} = \frac{12\%}{24\%} = \frac{1}{2}$



fraction = $\frac{d}{w} = \frac{.5}{2.0} = \frac{1}{4}$

$\therefore \frac{1}{4}$ of 16% OR $(\frac{1}{4})(16\%) = 4\%$

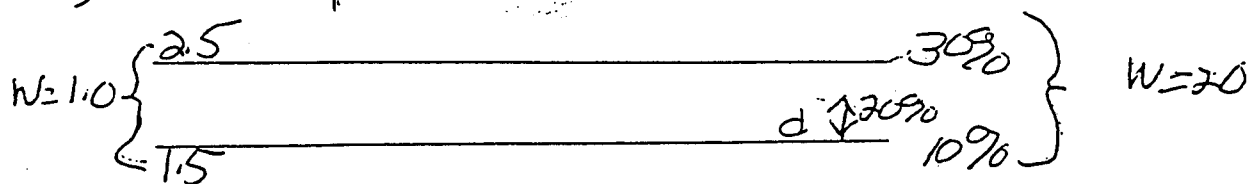
+ 4%
 $\boxed{89}$

\therefore percentile rank is

(22)

X	F	cf	C%
6	2	20	100%
5	2	18	90%
4	4	16	80%
3	6	12	60%
2	4	6	30%
1	2	2	10%

- a) both percentile is $x = 3.5$
- b) Percentile rank for $x = 5.5$ is 90%
- c) 20th percentile is



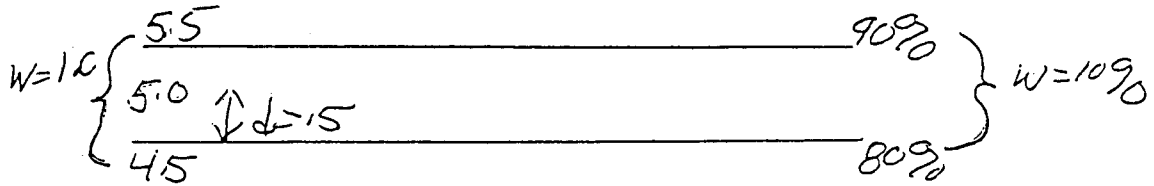
$$\text{fraction is } \frac{d}{W} = \frac{10\%}{20\%} = \frac{1}{2}$$

$$\therefore \frac{1}{2} \text{ of } 1.0 = \frac{1}{2} \text{ or } .5$$

$$.5 + 1.5 = \underline{\underline{2.0}} \text{ is the } 20^{\text{th}} \text{ percentile score}$$

22 cont.

d) PERCENTILE RANK FOR $X=5$

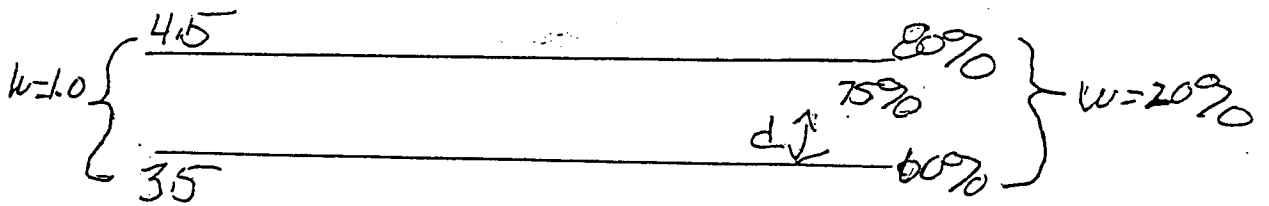


fraction is $\frac{15}{1.0} = \frac{1}{2} = .5$

$\therefore \frac{1}{2} \text{ of } 10\% = 5\%$
 $+ 80\%$

p.r. = 85%

e) 75th PERCENTILE IS



$d = 75\% - 60\% = 15\%$

$w = 20\%$

$\frac{3}{4}$ of $1.0 = .75$

$+ 3.5$
4.25

fraction $d = \frac{15}{20} = \frac{3}{4} = .75$

is the 75th percentile score