

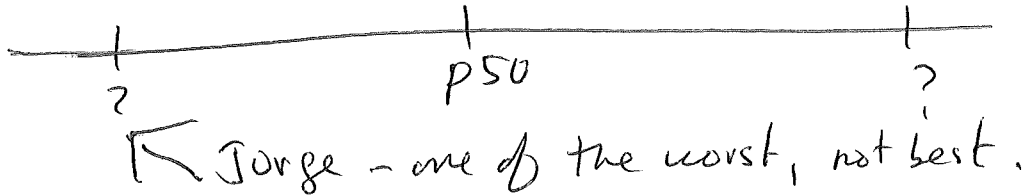
Percentile Rank Practice Problems

Key

1. Jorge is a soccer goalie. This year, he saved 92% of shots on net. This puts him in the 10th percentile of goalies in the league.

→ means P10

Justify, referring to percentile rank, whether Jorge was one of the best goalies in the league this year.



2. The Winnipeg Flyers hockey team keeps statistics on the number of goals scored by each player.

Player	Goals Scored
Buff, D.	13 ✓
Flowry, A.	15 ✓
Large, B.	21 ✓
Legica, J.	10 ✓
Lines, P.	36
Shuffler, M.	32
Steelers, N.	26 ✓
Wheely, B.	25 ✓

Calculate Steelers' percentile rank.

How many are below 26 = 5 ~~team~~ players

$$B = 5$$

$$n = 8 \text{ players}$$

$$\frac{5}{8} \times 100 = \underline{\underline{62.5}}$$

Percentile Rank Practice Problems

3. The table below lists the daily earnings of a waiter.

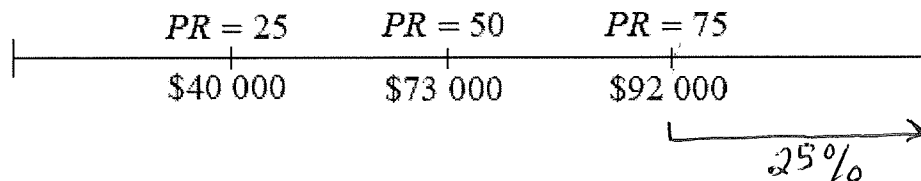
\$50 ✓	\$55 ✓	\$55 ✓	\$56 ✓	\$59 ✓
\$60 ✓	\$60 ✓	\$66 ✓	\$75 ✓	\$85
\$90	\$95	\$140	\$140	\$145

Calculate the percentile rank for a daily earning of \$85.

$$B = 9 \quad \frac{A}{n} \times 100 = P = 60$$

$$n = 15$$

4. Statistics for family income are available for the town of St. Lamont. The family incomes for the 25th, 50th, and 75th percentile ranks are shown below.



- a) State the percent of families that earn more than \$92 000.

$$25\%$$

- b) There are 1416 families in the town of St. Lamont. Calculate how many families earn more than \$92 000.

$$25\% \text{ of } 1416.$$

$$0.25 \times 1416 = 354 \text{ families.}$$

Percentile Rank Practice Problems

5. The weights (kg) of fish caught in a fishing derby are:

1.91 2.25 2.84 2.90 3.71 4.18 4.49 4.82 5.02

✓
✓
✓

Manuel caught the fish that weighed 2.90 kg.

Calculate the percentile rank of the weight of his fish.

$$\frac{3}{9} \times 100 = \underline{\underline{P33}}$$

6. A school group went on a weekend ice fishing trip. The following table shows how many fish each student caught and released:

Name	Number of Fish Caught and Released
Jin	45
Sue	16
Dave	13 Below
Tyson	40
Bob	39
Alexa	13 Below

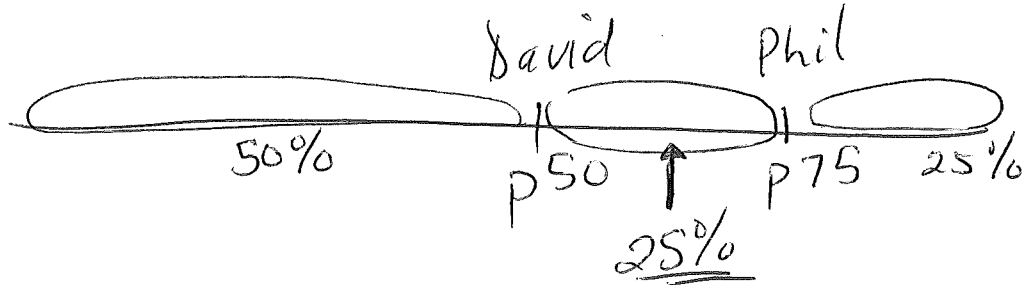
Calculate Sue's percentile rank.

$$B = 2 \quad n = 6 \quad \frac{2}{6} \times 100 = \underline{\underline{P33}}$$

Percentile Rank Practice Problems

7. In a math class, David received the median score on his math test. Phil's score was at the 75th percentile. No students received the same score.

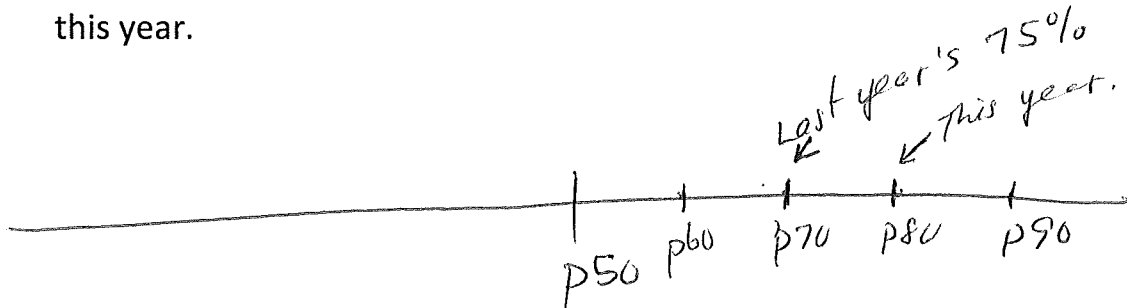
State the approximate percentage of students who received a score between David's and Phil's.



8. Marc must write an entrance exam to enter university. He must receive a minimum grade of 75% to be accepted.

Last year his mark was in the 70th percentile. He was not accepted. This year his mark is in the 80th percentile.

Justify why it cannot be determined if Marc will be accepted into university this year.



Marc's personal ~~score~~ score (%) is not compared to others. Even though 75% is a good score, many students - 25% of them, did better.

This year he did better compared to others but there are still 20% that did better.

Percentile Rank Practice Problems

9. Financial institutions use credit scores to decide whether people qualify for a loan.

Below is a list of credit scores for people applying for a bank loan.

620 ✓	655 ✓	706 ✓	722 ✓	722 ✓
768 ✓	775 ✓	778 ✓	780 ✓	784 ✓
784 ✓	<u>800</u>	803	816	824
824	831	840	849	852

Calculate the percentile rank for a credit score of 800.

$$B = 11 \qquad \frac{11}{20} \times 100 = \underline{\underline{P55}}$$

$$n = 20$$

10. In a school, $\overset{n}{236}$ students wrote a test. Jesse scored 60 out of 93 on the test and 127 students scored lower than him.

- a) State Jesse's percentile rank.

$$B = 127$$

$$n = 236$$

$$\frac{127}{236} \times 100 = 53.81$$

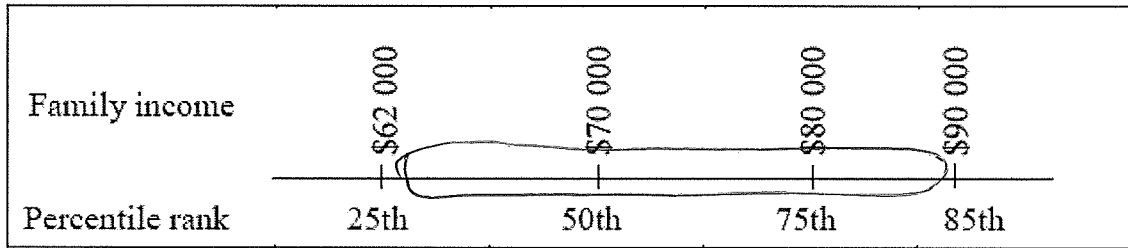
$$\underline{\underline{P54}}$$

- b) State Jesse's mark as a percentage.

$$\frac{60}{93} \times 100 = \underline{\underline{64.52\%}}$$

Percentile Rank Practice Problems

11. The following statistics are available on family income for a community:



State the percentage of people who earn between \$62,000 and \$90,000.

~~75%~~ too fast!

$85^{\text{th}} - 25^{\text{th}} = 60\%$ in between