

Playoff Race Standings

Halfway through the season, four made-up teams are battling for the division title. Use the standings and the formulas in the toolkit to see who is really ahead. Show your work.

Name _____

Date _____

STANDINGS TOOLKIT

Win %

$(W + \frac{1}{2} T) \div \text{games}$
3 decimal places

Games Back

$(\text{win gap} + \text{loss gap}) \div 2$

Magic No.

$17 + 1 - \text{leader's } W - \text{chaser's } L$

Point Diff

points for – points against

PLAYED

9

GAMES LEFT

8

17-GAME SEASON

NORTH DIVISION · AFTER WEEK 10

TEAM	W	L	T	PF	PA
Harbor City Herons	7	2	0	231	168
Summit Falls Comets	6	3	0	204	190
Iron Ridge Bison	5	3	1	188	171
Bayport Otters	2	7	0	150	228

W wins · **L** losses · **T** ties · **PF** points for (scored) · **PA** points against (allowed).

Each team has played **9 of its 17** games and has had one bye week.

Real football rule: in win %, a **tie counts as half a win** and half a loss.

ROOKIE

- 1 What is the **Herons'** win %? Write it to **3 decimal places**, like standings do.

WORK SPACE

ROOKIE

- 2 The **Bison** have a tie. Use the tie rule to find their win % to **3 decimal places**.

WORK SPACE

STARTER

- 3 What is the **Otters'** point differential (points for – points against)? Watch the sign.

WORK SPACE

_____ points

STARTER

- 4 The Comets are ahead of the Bison in the standings. Which of the two has the **better point differential**, and by how many points?

WORK SPACE

_____ by _____ points

PRO

- 5 How many **games behind** the Herons are the **Bison**? Leave ties out of the formula.

WORK SPACE

_____ games

PRO

- 6 How many points per game have the **Herons** scored? Round to **1 decimal place**.

WORK SPACE

_____ points

ALL-STAR

- 7 Find the Herons' **magic number** over the **Comets**. Every Herons win or Comets loss lowers it by 1.

WORK SPACE

CHALLENGE ★

- 8 The Comets want a season win % of at least **.750** with no ties. Over the full **17-game season**, what is the **fewest more wins** they need?

WORK SPACE

_____ wins

A Comets Game Log

Every Comets game so far. The first score is always the Comets' score.

WK	OPPONENT	COMETS	OPP	W / L
1	vs Kodiaks	24	17	
2	at Herons	20	27	
3	vs Pilots	31	14	
4	at Bison	17	20	
5	vs Stallions	27	24	
6	Bye week	-	-	-
7	at Otters	23	16	
8	vs Owls	13	30	
9	at Kodiaks	21	19	
10	vs Pilots	28	23	

Made-up league data. Totals: 204 points for, 190 against.

1 Fill in **W** or **L** for each game. How many wins and losses do you count?

_____ W _____ L

2 What is the **median** number of points the Comets scored? Hint: list the 9 scores in order first.

_____ points

3 What is the **range** of the Comets' points scored?

_____ points

4 In which week was the Comets' **biggest win**, and by how many points?

Week _____ by _____

B Playoff Words

Write the word from the bank that matches each meaning. One word is not used.

Word bank: bye · clinch · division · tiebreaker · wild card

1 a week when a team does not play a game

2 to lock up a playoff spot no matter what happens next

3 a rule used to rank two teams that have the same record

4 a playoff spot for a strong team that did not win its division

C Down the Stretch

Project the rest of the season. Football has no partial games, so records use whole numbers.

1 The Herons are 7–2 with **8 games left**. If they win 5 and lose 3, what is their final record (W–L) and win % to **3 decimal places**?

WORK SPACE

_____ - _____ , _____

2 If the **Bison** win all 8 of their remaining games, what will their final win % be, to **3 decimal places**? Remember their tie.

WORK SPACE

3 The Herons scored **231 points** in 9 games. At that same rate, how many would they score in **17 games**? Round to a whole number.

WORK SPACE

_____ points

4 Use your magic number from Problem 7. In Week 11, the Herons **win** and the Comets **lose**. What is the new magic number?

WORK SPACE

BONUS · YOUR TURN

Which team do you think wins the North Division? Write **two or three sentences**. Use one win % and one other number from this sheet.

1 _____
2 _____
3 _____

✓ **Answer Key** (for teachers & parents)

Answers for **Playoff Race Standings**, with the work shown. Print pages 1 and 2 for students, and keep this page for checking. Win % is written to 3 decimals without a leading zero (.778), the way real standings show it. Accept 0.778 too.

Page 1 Problems

- Answer: **.778**
Divide wins by games: $7 \div 9 = 0.7777\dots$, so .778.
- Answer: **.611**
The tie counts as half a win: $5 + 0.5 = 5.5$. Then $5.5 \div 9 = 0.6111\dots$, so .611.
- Answer: **-78 points**
Subtract points against from points for: $150 - 228 = -78$.
- Answer: **Bison, by 3 points**
Bison: $188 - 171 = +17$. Comets: $204 - 190 = +14$. Then $17 - 14 = 3$.
- Answer: **1.5 games**
Win gap $7 - 5 = 2$, loss gap $3 - 2 = 1$. Add them: 3. Divide by 2.
- Answer: **25.7 points**
Divide: $231 \div 9 = 25.67$, which rounds to 25.7.
- Answer: **8**
 $17 + 1 - 7 - 3 = 8$, using the Herons' 7 wins and the Comets' 3 losses.
- Answer: **7 more wins**
 $.750 \times 17 = 12.75$, so they need 13 wins in all. They have 6, and $13 - 6 = 7$.

A · Comets Game Log

- Answer: **6 W, 3 L**
Weeks 1-5 and 7-10 in order: W L W L W L W W.
- Answer: **23 points**
In order: 13, 17, 20, 21, 23, 24, 27, 28, 31. The middle (5th) score is 23.
- Answer: **18 points**
Highest minus lowest: $31 - 13 = 18$.
- Answer: **Week 3, by 17 points**
Week 3 vs Pilots, 31-14: $31 - 14 = 17$.

B · Playoff Words

- Answer: **bye**
- Answer: **clinch**
- Answer: **tiebreaker**
- Answer: **wild card**

Not used: division

C · Down the Stretch

- Answer: **12-5, .706**
 $7 + 5 = 12$ wins and $2 + 3 = 5$ losses. $12 \div 17 = 0.7058\dots$, so .706.
- Answer: **.794**
Final record 13-3-1. Count the tie as half a win: $13.5 \div 17 = 0.7941\dots$, so .794.
- Answer: **436 points**
Points per game times games: $231 \div 9 \times 17 = 436.3$, which rounds to 436.
- Answer: **6**
One Herons win and one Comets loss each lower it by 1: $8 - 2 = 6$.

Quick score

Page 1 problems	_____ / 8
A · Game Log	_____ / 4
B · Playoff Words	_____ / 4
C · Down the Stretch	_____ / 4
Total	_____ / 20

Skills practiced

- Fractions to decimals
- Rounding
- Integers
- Mean, median & range
- Unit rates
- Proportions
- Sports vocabulary

Teaching tip: In Problem 2, students who skip the tie get $5 \div 9 = .556$, and students who count the tie as a loss get the same thing. The tie is worth half a win. **Magic number:** it counts how many Herons wins plus Comets losses, in any mix, guarantee the Herons finish ahead of the Comets (assuming no more ties). For the bonus, push students to back up their pick with numbers.