



Professional Sports

Suggested Time: 2 hours

What's important in this lesson:

Work carefully through the questions in this culminating activity. These questions have been designed to see what knowledge you have gained about the topics that you covered in the course.

Complete the following steps:

1. Read through the lessons on your own.
2. Complete all questions provided.
3. If you have any questions, ask your teacher.
4. Check your answers with the teacher.

Hand in the following:

1. Hand in this Summative activity.

Questions for the teacher:



Professional Sports

Professional Pay

Athletes who play professional sports tend to be paid very well, as the table indicates.

1. Write out the following salaries in numbers, and calculate the pay per game.

Professional Athlete	Annual Salary	Write as a number	Number of regular season games	Pay per game
NHL hockey player	\$1.7 million		82	
NBA basketball player	\$2.9 million		45	
MLB baseball player	\$2.5 million		162	
CFL football player	\$1.2 million		16	

2. a) Is it fair to think of the athlete being paid on a per-game basis?

b) What else would a professional athlete have to do for his job, in addition to playing the game?

3. The annual salary for a worker on minimum wage is \$17 000. How many times more is the professional hockey player paid?

4. a) If a CFL player decides to donate $\frac{1}{3}$ of one game's salary to a charity, what amount of money would that be?

b) If a NBA basketball player donates $\frac{2}{3}$ of one game's salary to a charity, what amount of money would that be?



Professional Pay, continued

5. A charitable organization in a large city will feed the hungry at a soup kitchen for about 65¢ per person. A professional athlete on a MLB team from the same city decides to donate 10% of his per-game pay to that good cause. How many people can get a warm meal from his generosity?

6. A MLB professional athlete decides to order 4 Porsches, fully loaded, one for each member of his family. The cars cost 20% of his salary.

a) Calculate the cost of the cars.

b) Unfortunately, he is moved to the minor leagues two months later, so his salary is reduced by 75%. What is his new salary?

c) The cost of the 4 cars is what percent of his new salary?

(hint: $\text{car cost} \div \text{salary} \times 100\%$)

Professional Venues

1. This is a baseball field.

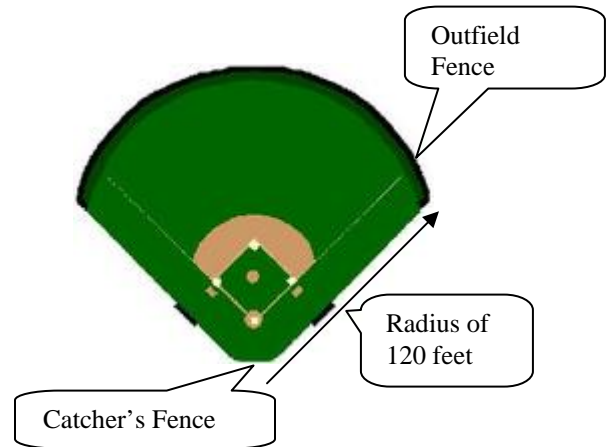
Behind Homeplate is the catcher's fence.

From catcher's fence to outfield fence is approximately 120 feet.

The far outfield fence is a quarter circle.

Find the length of the Outfield Fence.

Formula: Circumference =



Therefore, the Outfield Fence length is:



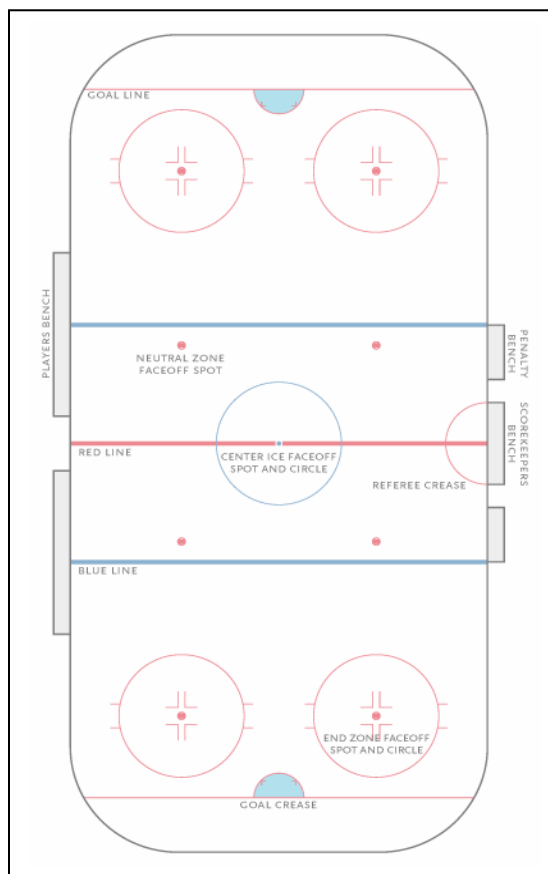
Professional Venues, continued

2. This is a North American style hockey arena. Its dimensions are 200 ft x 85 ft. Let's ignore the rounded corners, and assume it is a full rectangle.

- a) Find area of this NHL arena.

- b) The ice surface is surrounded by a wall, approximately 3.1 feet high, called 'the boards'.
 - i) Find the perimeter of the boards.

 - ii) Find the area of the boards.



c) The ice rink fills the full area of the rectangular arena. The ice is 6 inches ($\frac{1}{2}$ ft) thick. [Fact: It takes 4 to 6 hours to convert from basketball mode to full hockey set-up.] Find the volume of ice required for a hockey game.



Professional Venues, continued

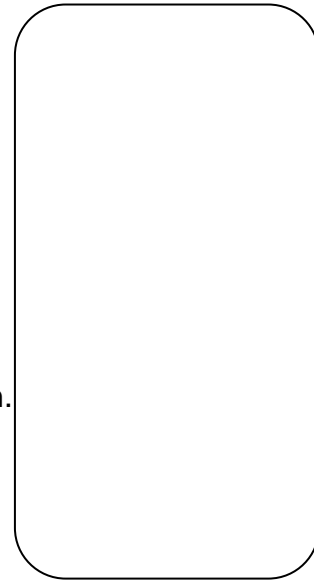
d) Hockey rinks in the rest of the world follow the International Ice Hockey Federation specifications, which are given in metric units.

The distance from the end boards to the nearest goal line is 4m.

The distance from each goal line to the nearest blue line is $17 \frac{2}{3}$ m.

The distance between the two blue lines is also $17 \frac{2}{3}$ m.

- i) Sketch this rink; label the dimensions with the lengths given.
- ii) Find the total length of this International rink, in metres.



Professional Team Merchandise

You are at a Toronto Maple Leafs hockey game, and purchase the Jersey and the Bobble Head.

What is the Total Price? Watch for discount and all sales taxes.



\$92.00

**20%
off**

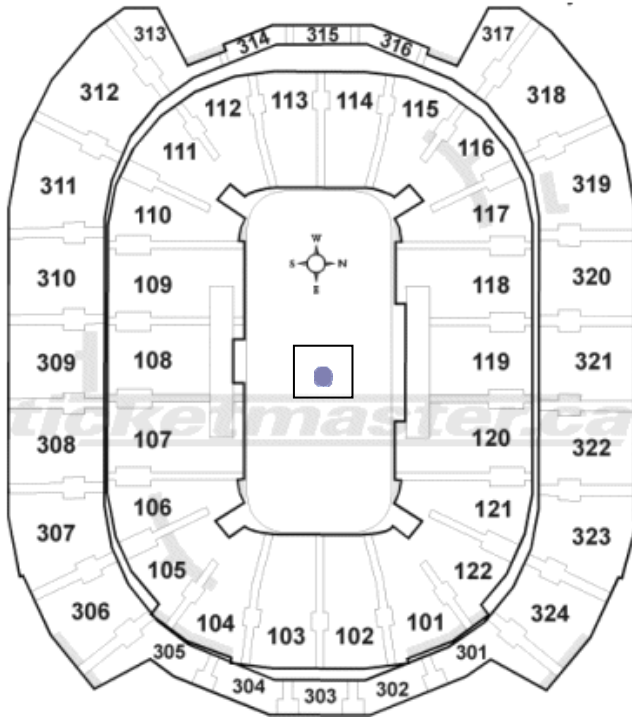


Action Bobble Head – Sundin
\$39.00



Professional Venue Seating

The diagram shows the seating arrangement for the Air Canada Centre for Basketball games.



Air Canada Centre
40 Bay St., Toronto, ON

rows
Bottom to Top:
100 LEVEL: 1-28
300 LEVEL: 1-19
Rows vary between sections.

seats
All seats in the stands run clockwise around the arena.
 seats vary for different events.

For our purposes, we will use seating arrangements as follows. The colour of the seat determines the Ticket price.

The **100 Level** seats are all silver colour. They are closest to the action but they are also close together. They are the middle price.

On the 300 Level, 306-313 and 317-324 are gold colour. These seats are farther away from the play. They are the lowest in price.

The seats at the end of the 300 Level, 301-305 and 314-316 are red. These seats are the deluxe seats, close to refreshments and the highest in price.

1. Shade in the colour scheme on the diagram. The actual Seating Capacity is 19,800 seats. The ratio of the coloured seats is 7:2:1 for silver : gold : red. Find the number of seats for each colour.

Silver

Gold

Red

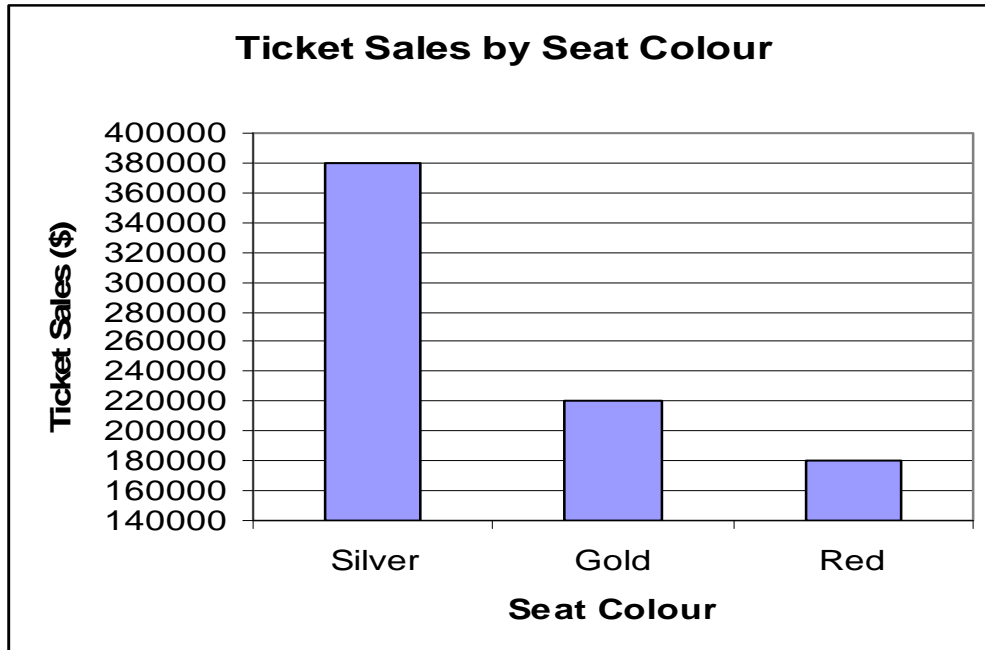


Professional Venue Seating, continued

2. If you are at Centre Court (large dot) with Section 119 at your outstretched right arm, at what angle can you see your girlfriend in Section 315: 30°, 60°, or 90° ?
3. If you are at Centre Court (large dot) with Section 119 at your outstretched right arm, at what angle can you see your fans in Section 318: 30°, 45°, or 90° ?

Professional Ticket Sales

4. The graph shows Tickets Sales amounts for the coloured sections of seats.



a) What is the Ticket sales amount for the Silver seats? _____

There are _____ Silver seats.

Cost of each Silver section Ticket = Ticket Sales Amount ÷ Number of seats

=

=

b) What is the Ticket sales amount for the Gold seats? _____

There are _____ Gold seats.

Cost of each Gold section Ticket = Ticket Sales Amount ÷ Number of seats =

=

c) What is the Ticket sales amount for the Red seats? _____

There are _____ Red seats.

Cost of each Red section Ticket = Ticket Sales Amount ÷ Number of seats =

=

Culminating Performance Task ~ Rubric

Criteria	Level 4 (80-100%)	Level 3 (70-79%)	Level 2 (60-69%)	Level 1 (50-59%)	R
Knowledge	Shows thorough understanding of the required concept, along with a broader view of the application of the concept Performs the assigned operation or algorithm completely, accurately, and verified or supported	Shows considerable understanding of the required concept Performs the assigned operation or algorithm with few and/or omissions	Shows some understanding of the required concept Performs the assigned operation or algorithm with minor errors and/or omissions	Shows limited understanding of the required concept Performs the assigned operations or algorithm with major errors and/or omissions	
Thinking and Inquiry	Selects and sequences the most appropriate procedures, logically sequenced	Selects and sequences appropriate procedures, logically sequenced	Selects and sequences appropriate procedures, with minor omissions or mis-sequencing	Selects and sequences appropriate procedures, with major omissions, or mis-sequencing	
Communication	Correctly interprets the information, and makes subtle or insightful statements	Correctly interprets the information, and makes reasonable statements	Misinterprets part of the information, but carries on to make some otherwise reasonable statements	Misinterprets a major part of the information, but carries on to make some otherwise reasonable statements	
Application	Selects and fits the most appropriate procedure or routine effectively	Selects and fits a procedure or routine effectively	Selects and fits a procedure or routine somewhat effectively	Selects and fits a procedure or routine with limited effectiveness	

Mark per Category			
Knowledge	_____	Thinking and Inquiry	_____
Communication	_____	Application	_____

Most Consistent Mark (Overall Mark)