

OVERVIEW

It is important that athletes do warm up exercises before they play a game or begin a practice session. Likewise, it is important that students do warm up exercises before the day's lesson to reinforce prior skills that they have learned. Warm up exercises are provided on transparencies for this purpose. Choose one exercise per day.

TEACHER NOTES:

Answers for each warm-up transparency are included here.

FOOTBALL HISTORY

Q: During the Buffalo Bills vs. New York Giants game a total of 30 tackles were made. Bruce Smith made 9 of those tackles. What was the percentage of tackles that Bruce Smith made during the game? Use a proportion to find the answer.

A: $\frac{n}{100} = \frac{9}{30}$ $n = 30\%$

Q: Jerry Rice and Andre Reed have both played in the NFL for 14 years. Together they have scored 243 touchdowns. Rice has scored 77 more touchdowns than Reed. How many touchdowns has each scored?

A: Andre Reed scored 83 touchdowns and Jerry Rice scored 160 touchdowns.

COMMUNITY RELATIONS DEPARTMENT

Q: The Bills Community Relations department orders 1350 items for signing. On the average, they donate 30 signed items each week to local charities. How many weeks will they be able to send out donations?

A: $1350/30 = 45$ appearances

Q: If they sign 525 footballs, what percent of the signed items are footballs? (Round your answer to the nearest percent.)

A: $525/1350 = .389 = .39 = 39\%$

Q: If the Community Relations department decides to increase the number of signed footballs by 20%, how many footballs will be needed?

A: $525 \times .20 = 105$ more; $525 + 105 = 630$ footballs



WARM UPS

Q: In the month of June, eight of the Bills players signed 440 footballs. What is the average number of footballs signed by each player?

A: 55 footballs

USING THE LETTERS

Using the letters, BUFFALO BILLS

Q: a) What is the probability of choosing an A ?

A: $1/12$

Q: b) What is the probability of choosing an L ?

A: $3/12 = 1/4$

Q: c) What is the probability of choosing a B or an F ?

A: $4/12 = 1/3$

Q: d) What is the probability of choosing a Z ?

A: $0/12$

Q: e) What is the probability of choosing B, U, F, A, L, O, I, S ?

A: $12/12 = 1$

RALPH WILSON STADIUM

Q: Ralph Wilson Stadium cost \$23.3 million to build.
Write 23.3 million in standard form.

A: 23,300,000

Q: Round the answer above to the nearest million, then write in scientific notation.

A: $23,000,000 = 2.3 \times 10^7$

WARM UPS

TACKLE MATH

WITH THE BUFFALO BILLS

Q: There are over 40 locations to purchase food, beverages, and merchandise. This is a ratio of one location for every 1850 seats. Write this ratio as a fraction.

A: $1/1850$

Q: Write the next equivalent fraction

A: $2/3700$

Q: Write this fraction as a decimal. Round off your answer to the nearest thousandth.

A: .001

JUMBOTRON

Q: The Jumbotron features six massive videoboards. Each measures 8 feet by 39 feet. What is the perimeter of each videoboard?

A: 94 feet

Q: What is the area?

A: 312 square feet

Q: Double the length and width of the videoboard.

A: 16 feet by 78 feet

Q: What is the perimeter of the new videoboard?

A: 188 feet

Q: What is the area?

A: 1248 square feet

Q: Describe the relationship between the first perimeter and the second perimeter.

A: The perimeter doubled.

Q: Describe the relationship between the first area and the second area.

A: The second area is 4 times larger than the first.

WARM UPS

TIME OUT

Q: A football game is $3 \frac{1}{4}$ hours long including half-time.
How many minutes is that?

A: 195 minutes

Q: If half-time is 15 minutes long, how many minutes is each quarter?

A: 45 minutes

Q: If there are 3.5 minutes left in the final quarter, how many minutes have been played since the start of the second quarter?

A: 131.5 minutes

SUPER BOWL SEATING

Q: Raymond James Stadium in Tampa Bay increased its seating capacity for the Super Bowl from 65,000 seats to 75,000 seats.
How many additional seats were added?

A: 10,000 seats

Q: What was the percent of increase? Round your answer to the nearest percent.

A: $(75,000 - 65,000) / 65,000 = 15\%$

Q: If the stadium increases its seating capacity by another 12%, how many seats will there be then?

A: 84,000 seats

CHEERLEADERS

Q: Create a bar graph using the heights of 20 of the Buffalo Bills. Remember to title your graph, label the axes, and use appropriate and consistent scales.

5'4", 5'8", 5'3", 5'8", 5'6", 5'8", 5'4", 5'7", 5'9", 5'5",
5'8", 5'7", 5'4", 5'5", 5'8", 5'7", 5'6", 5'8", 5'7", 5'7".

A: Check the students' graphs. Each graph needs a title, axes labeled, and appropriate and consistent scales for the axes.

Q: What is the mode? (Which height(s) occur most often?)

A: 5'8"

Q: What is the range?

A: $5'9" - 5'3" = 6"$ range

BILLS CAREER CONNECTIONS

The **Media Relations Coordinator** is in charge of the weekly game releases that are sent out to the media. A media guide is printed with a history of Bills statistics. Mathematics is very important in this job because of the many different statistics that are compiled on the players and the games. For example:

Q: The quarterback completed 174 of 220 passes this season. What percentage of passes did he complete?

A: 79%

WARM UPS

The **Equipment Manager** and **Assistant Equipment Managers** are responsible for ordering, maintaining and outfitting all players with protective equipment (shoulder pads, helmets, shoes, etc.) and practice and game day uniforms. They also outfit the coaching staff, scouting staff and support staff. The Equipment Managers are responsible for issuing, maintaining, and repairing all athletic supplies and equipment used for practices and games. They are also responsible for packing equipment for road games.

Q: In order to get all the jerseys clean for the next practice game the Equipment Managers must do laundry! A broken dryer needs to be repaired in a hurry, so the Equipment Manager must complete a purchase order to fix it. Help him fill out the order form.

Quantity	Part	Cost
1	Motor Belt	\$12.50
1	Heat Coil	\$89.60
	Labor \$45/hr for 2 hours	
	Tax	\$15.37
	Total Cost	

A: Labor = \$90.00
Total Cost = \$207.47



The **Special Events Manager** organizes stadium activities for game day, such as the Buffalo Bills experience, pre-game and half-time activities and Training Camp. The special events manager also coordinates Bills related events with the Buffalo Bills Youth Foundation which requires managing the budget allocated for each event. For example:

Q: The Buffalo Bills Youth Foundation's Flag Football Tournament has an operating cost of \$10,000. The cost to enter the tournament is \$175 per team. How many teams must enter the flag football tournament in order to raise \$5,000 for charity?

Which equation below will you need to solve the problem above?

Let t = the number of teams.

- a) $\$175t = \$5,000$
- b) $\$175t + \$5,000 = \$10,000$
- c) $\$175t = \$10,000 - \$5,000$
- d) $\$175t - \$10,000 = \$5,000$

A: D

The **Team Trainer** supervises the team weight training facility.

In a season, the team uses:

24,000 rolls of tape

5,000 bandages

1,500 gloves

3,000 Band-Aids

1,200 cases of Gatorade

Q: Now, if each roll of tape contains 15 yards of tape and the team uses 24,000 rolls a year, how many complete times around the perimeter of a football field including the end zones could we walk unwinding the tape? (The football field is 100 yards by $53 \frac{1}{3}$ yards. Each end zone is 10 yards by $53 \frac{1}{3}$ yards.)

A: 1,038 times