GRADE 7 · UNIT 7 · PRACTICE TEST

Solving Percentage Problems

24 points

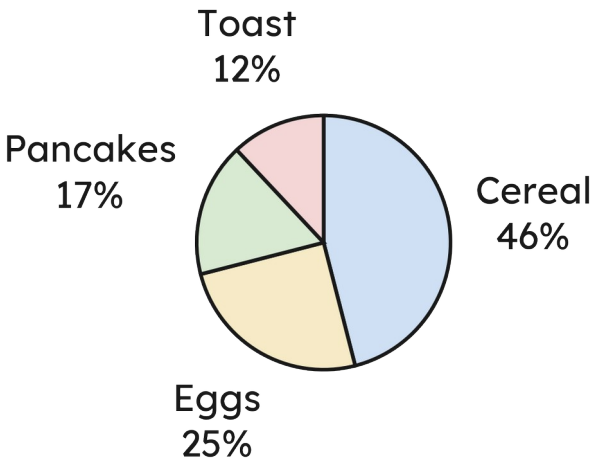
Name_____
Date_____
Period_____

Show your work for problems that require calculations. Each numbered question or lettered part is worth 1 point.

Circle graphs

8 points

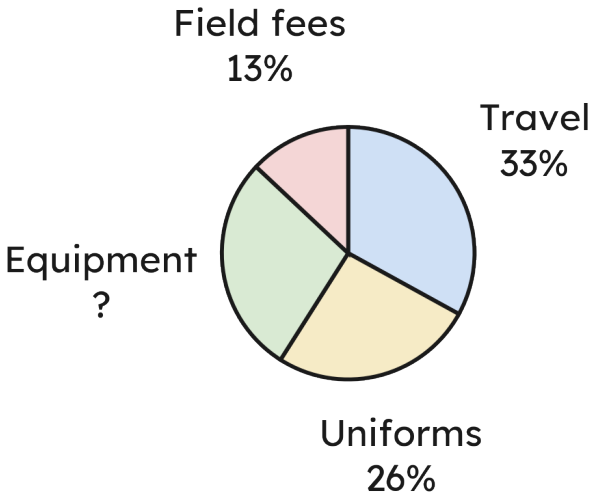
1. The circle graph shows the favorite breakfast of 200 students.



a. How many students chose pancakes? *1 pt*

b. How many more students chose cereal than toast? *1 pt*

2. The circle graph shows how a soccer team spent $650 for its season. The percent for equipment is not printed.

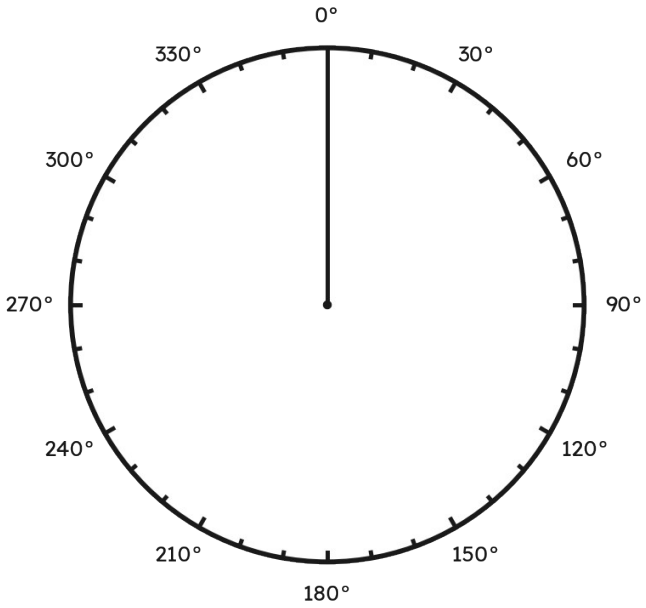


a. What percent of the money was spent on equipment? *1 pt*

b. How many dollars did the team spend on equipment? *1 pt*

3. A sector of a circle graph has a central angle of 63°. What percent of the whole does the sector show? *1 pt*

4. 180 students chose a field trip: Zoo 55, Aquarium 50, Science center 45, Museum 30. The circle below is marked every 10°.



a. Find the central angle of the sector for the zoo. *1 pt*

b. Draw the circle graph on the circle above. Label each sector with its trip. *1 pt*

5. Two classes each made a circle graph of their favorite sport. In both graphs the basketball sector is 25%. Class A has 20 students and Class B has 36. Which statement is true? *1 pt*

- ○ A. The same number of students chose basketball in both classes.
- ○ B. More students chose basketball in Class B.
- ○ C. More students chose basketball in Class A.
- ○ D. The graphs must be wrong: equal sectors need equal classes.

Percent problems

16 points

6. A bike has a regular price of $220 at two stores. Store A takes 55% off. Store B takes 40% off, and then takes another 30% off the sale price.

a. Find the final price at each store. *1 pt*

b. Which store has the lower price, and how many dollars lower is it? *1 pt*

7. A store buys board games for $38 each and marks the price up 45%. Find the selling price. *1 pt*

8. A repair costs $85. The sales tax is 6%. Find the total with tax. *1 pt*

9. Lena leaves a $7.20 tip on a $40 meal. What percent of the meal is the tip? *1 pt*

10. A skateboard costs $130. It is on sale for 20% off, and a 7% sales tax is charged on the sale price.

a. Find the sale price. *1 pt*

b. Find the total with tax. *1 pt*

11. A late fee is 15% of a bill. The late fee is $14.40. How much is the bill? *1 pt*

12. Simple interest: $I = Prt$. Mr. Diaz puts $2,600 in an account that pays 3.5% simple interest per year. He leaves it for 4 years.

a. Find the interest. *1 pt*

b. Find the balance after 4 years. *1 pt*

13. Simple interest: $I = Prt$. $250 is borrowed at 6% simple interest per year. The interest is $60. For how many years was the money borrowed? *1 pt*

14. Percent of change = (final − initial) ÷ initial · 100. A theater sold 375 tickets on Friday and 315 tickets on Saturday. Find the percent decrease. *1 pt*

15. The price of a game fell 15%. The new price is $102. What was the price before it fell? *1 pt*

16. Percent error = |estimate − actual| ÷ actual · 100. Sam estimated that 230 guests would come. 250 guests came. Find the percent error of Sam's estimate. *1 pt*

17. Answer both parts.

a. The ratio of girls to boys in a chess club is 14 : 11. What percent of the club are girls? *1 pt*

b. In a grade, 12% of the students play an instrument. Write the ratio of students who play an instrument to students who do not. *1 pt*