ACTIVITY 18 PRACTICE

Write your answers on notebook paper.
Show your work.

Lesson 18-1

1. If a horse is filmed during a race at 100 frames in one second, there are 100 photos of the horse.
- **a.** If you played the film at 10 frames every second, how long would the film play?
- **b.** If you tripled the speed of filming, how many photos would you have with the faster filming?

2. How many frames would be needed for a 1-minute film if it is filmed at 500 frames every second?

3. A rubber ball is filmed as it bounces on a sidewalk at 25 frames every second. Predict how many seconds of film will be shown in 1,750 frames. Justify your answer.

4. How many seconds of film is in 120 minutes of video?

A. 2 **B.** 720
C. 120 **D.** 7,200

5. How many ounces are in 2.5 pounds of seeds bought to film one scene of a movie?

A. $\frac{5}{32}$ **B.** 30
C. 40 **D.** 400

6. The average salary for a photographer in Chris's town is $54,800 per year.
- **a.** What is the conversion factor to convert dollars per year to dollars per week?
- **b.** What is the average weekly salary for a photographer?

7. One yard of film is how many inches?

A. 12 **B.** 24
C. 36 **D.** 48

8. The filmmaker took 66 inches of film during Career Week.
- **a.** How many feet of film did she take?
- **b.** If she filmed at a rate of 400 frames per second and it took 1 minute to film 1 inch of film, how many photos did she take? Justify your answer.

9. There are two grades of students at Career Day: sixth and seventh. The sixth graders spent an average of 1.5 minutes at each booth, while the seventh graders spent an average of 2.5 minutes at each booth. Each student visited every booth and checked it off a list.
- **a.** How many sixth graders visited the first booth in 3 hours?
- **b.** What is the total number of hours spent by 400 seventh graders visiting 10 booths?

10. A typical scanning format for high-definition television is 25 frames per second, with each frame being 1,920 pixels wide and 1,080 pixels high. How many pixels are displayed in a minute?

A. 48,000 **B.** 2,880,000
C. 2,073,600 **D.** 3,110,400,000

Lesson 18-2

11. An online seller is offering photo images for $0.99 each. Use a double number line to predict how many images can be bought with $17.50.

A. 8 **B.** 17
C. 18 **D.** 175

12. Suppose you earn $7.80 per hour. How much will you earn if you work a 20-hour week?

13. The filmmaker drove her car a distance of 250 miles to get to Chris's school. She traveled the first 200 miles in 4 hours. At this rate, how long will it take her to make the complete trip?

A. 1 hr **B.** 4 hr
C. 5 hr **D.** 5.5 hr

14. Howard made a poster for the school advertising Career Week. He first sketched his design on an 8.5 in. by 11 in. sheet of notebook paper. Then he expanded his design using a scale factor of 4.

a. What are the dimensions of the poster?
b. What is the area of the poster?
c. What is the ratio of the area of the poster to the area of the sketch?

15. Suppose you resized an 8-inch by 10-inch photo to be an 11-inch by 14-inch photo. Did you use the same scale factor for each of the dimensions? Explain.

16. Your teacher taught you how to enlarge a diagram by drawing squares on the diagrams and then copying the image within each square to a larger square that has each dimension equal to 4 times the corresponding dimension of the smaller square. If the area of the original image is 32 square inches, what is the area of the enlarged image?

A. 32 $in.^2$ **B.** 64 $in.^2$
C. 128 $in.^2$ **D.** 512 $in.^2$

17. Chris saved some of his photos on his computer tablet. The height of his tablet is 9.5 inches and the width is 7.31 inches. What are the dimensions of the tablet in millimeters?

MATHEMATICAL PRACTICES
Attend to Precision

18. A store is advertising a new, smaller computer tablet with a height of 7.87 inches and a width of 5.3 inches. What is the area of the face of the smaller tablet in square centimeters?