

2003 8th GRADE
MAIN RANGEFINDER
2

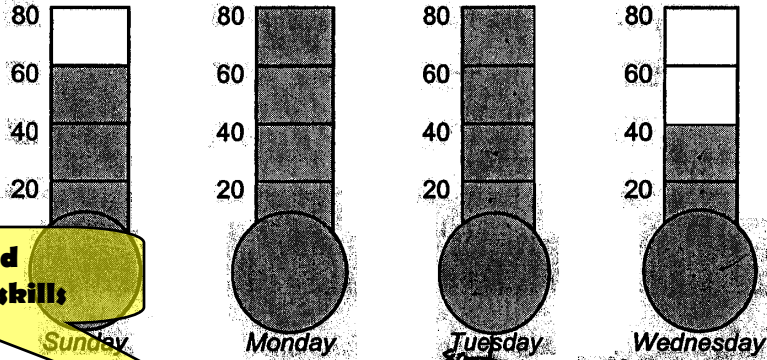
It is important that you show or explain how you solved the problems on this assessment. If you use a calculator, show how you set up the math.

Frequent computational or surface errors

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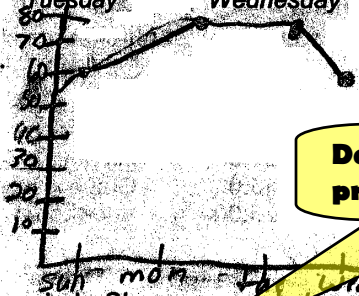
Read problems 2, 3, 4, and 5 on this and the next two pages. Select three problems to answer. Answer ALL of the parts of the three problems you select to answer. Cross out the one problem that you do not choose to answer.

2. During the first four days of last week, Dan recorded the 10:00 a.m. temperature. Use the data below to answer the following prompts.



Development toward proficiency of basic skills;

- a. Make a graph to represent the temperature.



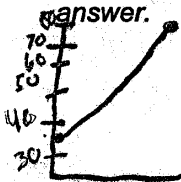
Development toward proficiency of basic skills;

- b. Find the mean temperature for the four-day period. Show or explain how you found your answer.

$$\begin{array}{r}
 + 60 \\
 + 80 \\
 + 80 \\
 + 60 \\
 \hline
 280
 \end{array}$$

the mean over the 4 day period would be $280 \div 4 = 70^\circ$

- c. On Tuesday at 7:30 a.m., the temperature was 35° . Determine the rate of change, in degrees per hour, between 7:30 a.m. and 10:00 a.m. Show or explain how you found your answer.



9° for every $0:30$ min
 18° for every hour

- d. If the temperature changed at a constant rate on Tuesday, determine the temperature at 8:45 a.m. Show or explain how you found your answer.

$$\begin{array}{r}
 35 \\
 + 18 \\
 \hline
 53
 \end{array}
 + \frac{3}{10} \times 18 = 56^\circ \text{ at } 8:45$$

Demonstrates basic use of thinking skills;

3 The rectangle shown here is 1 unit by 2 units.

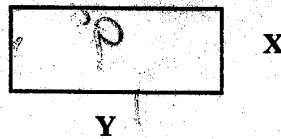


a. Find the perimeter and the area of this rectangle. *Show or explain how you found your answer.*

b. Sketch and label a rectangle that is 4 units by 8 units. Find the perimeter and the area of this second rectangle. *Show or explain how you found your answer.*

c. What is the ratio of the perimeters of the first rectangle to the second rectangle? What is the ratio of the areas of the first rectangle to the second rectangle? *Show or explain how you found your answer.*

d. Describe the perimeter and area of a rectangle that is three times as long and three times as wide as the rectangle shown here. *Show or explain how you found your answer.*



4. Each time you buy a hamburger or hot dog at BOB'S DRIVE-IN, you get a card with three squares on it. When you rub each square on your card, a picture of a taco or a drink appears. If all pictures match, you get a free order of fries.

a. List all the possible ordered combinations of pictures you could get when you rub off the squares. Show or explain how you found your answer.

Limited use of communication skills

About 9 different combinations.

b. What is the probability that the card you get will be a winner? Show or explain how you found your answer.

About a 33% chance.

Limited use of communication skills

c. BOB'S DRIVE-IN gave away 296 cards. Suppose that one fourth of the cards were winning cards. How many orders of fries were given away? Show or explain your answer.

$$\begin{array}{r} 4 \overline{)296} \\ \underline{-28} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$

About 74 orders of fries were given away.

d. It costs BOB'S DRIVE-IN \$0.23 to buy, prepare, and serve an order of fries. How much did the give-away cost BOB'S? Show or explain how you found your answer.

$$\begin{array}{r} 0.23 \\ \times 74 \\ \hline 11.02 \end{array}$$

\$17.02

5. The school drill team has decided to have a car wash for a fund-raiser. They have discovered that 3 girls can wash 2 cars in about 15 minutes. The team has 24 girls.

a. How many cars can the entire team (24 girls) wash in 5 hours? Show or explain how you found your answer.

$$3 \overline{)24}$$

144 cars

b. If one group of girls washes 40 cars, what fraction of the total do they wash? What percent of the total do they wash? Show or explain how you found your answer.

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1/9

c. The drill team charges \$5.00 per car. Find the amount of money that will be left after the team spends 40% of their earnings for summer camp. Show or explain how you found your answer.

$$40 \overline{)720}$$

The team will have about \$320 left