Exam 2 review (chpts. 4-7) Use your notes and homework when you perform the following.

1. Make a drawing of base ten blocks that show the initial set-up for 134.256.

2. Make a drawing of base ten blocks to show 3 \times 134.2.

3. Make a drawing of base ten blocks to show 134.2 \div 2

4. Draw a picture of the following. Use base ten blocks to add 23.54 and 47.9.

5. Draw a picture of the following. Use base ten blocks to subtract 23.54 from 47.9.

6. Convert \( \frac{5}{4} \) to a fraction mentally.

7. Write a word problem that would require solving 5.4 \div 4, and then perform the operations using the standard algorithm, and then mentally. Make sure you show your mental work.

8. Use the power of ten rule to simplify 25.45 divided by 1000. Show work.

9. Describe three different ways that you could mentally calculate 16 \times 25.

10. For each of the following, mentally calculate the exact answer and write it in the blank. Use number sense. Then write enough to make clear how you thought.

   A) \[ 3618 + 2472 - 2618 - 472 = \]
   B) \[ (25 \times 29) + (25 \times 11) = \]

11. Describe how you would mentally compute the exact result in each of the following without using the standard algorithm: Your description should be concise and include the exact result.
   A) 234 – 119
   B) 12\% \text{ of } 150
      \[ 25 \times \frac{2}{5} \]
   C) 

12. Show how you would mentally compute the exact results:
   A) 3000 − 2575
   B) 0.75 \times 24
   C) 24 \times 13 + 24 \times 7

13. A person can reasonably calculate the exact answer to 1563 – 198 mentally by
    A) counting on his/her fingers.
    B) calculating 1565 – 200.
    C) calculating 1565 – 200 – 2.
    D) calculating 1600 – 200.
    E) This calculation is impossible to do mentally.
14. A person who is calculating the exact answer to $18 \times 15$ mentally starts by calculating $2 \times 15$. The person would finish the mental calculation by calculating...
   A) $9 \times 30$
   B) $27 \times 10$
   C) $36 \times 7.5$
   D) $60 \times 4.5$
   E) None of A–D

15. For each, describe two different strategies for performing the following computation mentally.
   A) $29 + 58$
   B) $74 - 24$
   C) $8 \times 15$

16. Determine the following mentally, writing enough to make your mental work clear.
   A) $40\%$ of $80$
   B) $15\%$ of $300$
   C) $20\%$ of $14$
   D) $100\%$ of $71$
   E) $5\%$ of $60$
   F) $120\%$ of $20$
   G) $15$ is $25\%$ of ?
   H) $14$ is $50\%$ of ?

17. Show how you would estimate:
   A) $391 \times 612$
   B) $0.74 \times 798$
   C) $32\%$ of $19$
   D) $196\%$ of $25$

18. Joe Blue was estimating $92 \times 31$. He said that rounding $31$ to $30$ then taking $92 \times 30$ (which is $2760$) is a better estimate than rounding $92$ to $90$ and then taking $90 \times 31$ (which is $2790$) because in the first case you lost only $1$ by rounding $31$ to $30$, but in the second case you lost $2$ by rounding $92$ to $90$. Explain how Joe's reasoning is incorrect. Your answer should show number sense.

19. For each of the following, mentally obtain an estimate of the answer and write it in the blank. Use number sense. Then write enough to make clear how you thought.
   A) $34\%$ discount on an $89$ suitcase. _________
   B) $0.26 \times 43,135 \approx$ ____________
   C) $61 \times 334 \approx$ ______________
   D) $74.35\% \times 1195 \times 0.9837 \approx$ ______________
   E) $(1201.794 \div 0.25) + 0.0423 \approx$ ______________

20. Is $40 \div 1.99$ less than, equal to, or greater than $20$? Explain, showing your understanding of a meaning of division.

21. $0.7614987 \times 159.23842$ is about
   A) $1.2$
   B) $12$
   C) $120$
   D) $1200$
   E) None of A–D
22. \(1.334496 \times 301.66\) is closest to and why?
   A) 400. 1.33 is about 1 and 1/3. 1 and 1/3 of 300 is 400. Removing the 1 from 300 only removes one 1.33.
   B) 391.
   C) 390.
   D) 40.
   E) 39.

23. Use number sense in locating the decimal point in the answer. Explain your thinking briefly.
   A) \(77.5 \times 2.84 = 220.7\)
   B) \(1002.6 \div 3.6 = 278.5\)

24. \(42,189 \div 511,264\) is about how many percent?
   A) 8%
   B) 12.5%
   C) 80%
   D) 125%
   E) None of A–D

25. Approximately how long is this line segment, in inches or in centimeters? Be sure to name the measuring unit you use.
   ___________________________________________________________
   What benchmark did you use?

26. Name an item that costs approximately $500,000.
   A) A family car
   B) A jet plane
   C) A nice home
   D) A stereo

27. Write the following values in scientific notation.
   A) The earth is 150,000,000,000 meters from the sun.
   B) The speed of light is 300,000,000 meters per second.
   C) A dust particle is 0.000 000 000 753 kg.

28. The earth is 150,000,000,000 meters from the sun, and the speed of light is 300,000,000 meters per second. How many seconds does it take light to reach the earth from the sun? Express your answer in scientific notation.

29. Shown below is \(1 \frac{1}{4}\) yards of carpet. Sketch (fairly accurately) 1 yard of carpet and \(3 \frac{1}{2}\) yards of carpet. If the piece of carpet shown sells for $28, how much should 9 yards cost?

30. Fractions are always less than 1.
   A) True
   B) False
31. To change $3\frac{1}{4}$ to a fraction, a common rule is to calculate $3 \times 4$, add 1, and write that answer over 4: $3\frac{1}{4} = \frac{(3 \times 4) + 1}{4} = \frac{13}{4}$. Use a number line (and words as you need them) to explain why that rule makes sense.

32. How would you convince a child with visual evidence that $\frac{3}{5} = \frac{4}{6}$?

33. Make a drawing that shows $2\frac{4}{5}$ if the shape below is 1.

34. Fill in the blank cells in the table below so that the numbers in each row are equivalent to the given one:

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Percent</th>
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<tbody>
<tr>
<td>a. $\frac{13}{20}$</td>
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<td>b. 0.00089</td>
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<td>c. 12.25%</td>
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<tr>
<td>d. $\frac{43}{4}$</td>
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</table>

35. What is the fraction equivalent of
   A) 0.651
   B) 0.44444...

36. What is the exact decimal equivalent of
   A) $\frac{3}{5}$
   B) $\frac{2}{7}$

37. $\frac{3}{18}$ can be written as a terminating decimal.
   A) True
   B) False

38. Give three decimals between 2.3456 and 2.3457. If it is not possible, explain why not.

39. How can you tell when a fraction is close to $\frac{1}{4}$? Do not refer to decimal numbers.

40. Which is closer to $\frac{1}{2}$: $\frac{8}{15}$ or $\frac{3}{7}$? Explain your reasoning.
41. Write a story problem in which \( \frac{3}{4} \) is treated as a a) part-whole fraction, with discrete quantities, b) continuous quantities, c) equally sharing.

42. Name three ways of thinking about the symbol “\( \frac{7}{8} \)”. 

43. If the heart-shaped cookies shown are \( \frac{3}{4} \) of the cookies in a package, how many cookies in all are there in the package?

![Heart-shaped cookies](image)

A) 3  
B) 9  
C) 16  
D) 24  
E) None of A–D

44. Given \( \frac{50}{10} \) and \( \frac{53}{13} \), why are we able to “cancel” the zeros in \( \frac{50}{10} \), but we are not able to “cancel” the 3s in \( \frac{53}{13} \)?

45. Show \( \frac{2}{3} = \frac{4}{6} \) using sticks.

46. Show that \( \frac{5}{12} = \frac{1}{4} \) using marbles?

47. Use drawings with rectangles to show that

A) \( \frac{5}{8} > \frac{7}{16} \)  
B) \( \frac{3}{4} > \frac{2}{3} \)  
C) \( 1\frac{3}{8} > \frac{6}{4} \)

48. Name three common denominators for the fractions:

A) \( \frac{3}{8} \) and \( \frac{7}{12} \)  
B) \( \frac{5}{12} \) and \( \frac{7}{14} \)  
C) \( \frac{9}{10} \) and \( \frac{7}{8} \)

49. Write the simplest fraction form for each:

A) \( \frac{9 \times 6 \times 8}{12 \times 8 \times 15} \)  
B) \( \frac{2 \cdot y^3 \cdot x^2}{y^4 \cdot z^2} \)

50. Put these in order, smallest to largest: \( \frac{200}{303} \) \( \frac{6}{9} \) \( \frac{9}{12} \) \( \frac{203}{300} \)

51. A) Give a number between \( \frac{3}{7} \) and \( \frac{4}{7} \).

52. Make up a story problem that could be solved by \( 3\frac{1}{2} - 2\frac{1}{3} \) and illustrates the comparison view of subtraction.

53. Why is a common denominator needed to add and subtract fractions?
54. Three children took a hike, carrying one heavy backpack. One child carried the backpack for $\frac{3}{8}$ of the hike, and a second carried it for $\frac{1}{6}$ of the hike. For what part of the hike did the third child carry the backpack? Which child carried the backpack for the greatest part of the hike?

55. Judy has a 10-page paper to write. The first day she writes $1\frac{1}{2}$ pages, takes a break, and then writes $3\frac{3}{4}$ pages more. The next day, she writes another $2\frac{1}{3}$ pages. How many pages does she still have to write?

56. Use a drawing to help explain $\frac{3}{4} + \frac{5}{8} = 1\frac{3}{8}$. Be explicit.

57. Use a drawing to help explain why $\frac{3}{4} \times \frac{5}{7}$ is equal to $\frac{3\times5}{4\times7}$. Be explicit.

58. Which letter is on the most likely place for the following?

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<th>D</th>
<th>E</th>
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</table>

i) $\frac{1}{2} \times 2$  
ii) $\frac{5}{8}$ of $\frac{1}{2}$  
iii) $1 \div \frac{2}{3}$  
iv) $\frac{1}{4} \div \frac{1}{3}$  
v) $\frac{3}{4} \times \frac{2}{3}$

59. A) Shade in $\frac{3}{4}$ of $\frac{2}{3}$ of this rectangle, as though you were acting it out:

B) Show exactly where the $\frac{2}{3}$ is. It is $\frac{2}{3}$ of what?

C) Show exactly where the $\frac{3}{4}$ is. It is $\frac{3}{4}$ of what?

60. A) Show $1 \div \frac{3}{8}$ with a rectangular region as the whole. Write your answer as a mixed number.

B) Make clear how the fraction part of your answer relates to your drawing.

61. Draw a picture that represents A) $\frac{3}{4} \times \frac{2}{5}$  
B) $\frac{2}{5} \times \frac{3}{4}$

62. Working on his summer tan, Zonker leaves $\frac{4}{5}$ of his skin exposed. He has only enough lotion to cover a third of his exposed skin. What part of his body will be unprotected? Draw a neatly labeled diagram displaying your solution.
63. Use these circles to show each division. For each part tell what question is being asked. Tell what your answer is in each case, and show how you obtained it.
   A) \( \frac{7}{8} \div \frac{1}{4} \) B) \( \frac{1}{4} \div \frac{3}{8} \)

64. The stage-coach robbers have a 12-mile head start on the sheriff’s posse. But the sheriff’s posse has faster horses, so the posse catches up by \( \frac{3}{4} \) mile every hour. How many hours will it take the posse to catch the robbers? Show your work.

65. Tell what \( 8 \frac{7}{8} \div 3 \) means...
   A) …with the repeated subtraction or measurement view.
   B) …with the partitive or equal-sharing view.

66. What calculation would solve this story problem?
   Cheese was $2.55 a pound. A woman bought a 0.85 pound package of the cheese. How much did she pay?
   A) \( 2.55 + 0.85 \)
   B) \( 2.55 - 0.85 \)
   C) \( 0.85 \times 2.55 \)
   D) \( 2.55 \div 0.85 \)

67. What calculation would solve this story problem?
   George had \( \frac{4}{5} \) of a pie. He ate \( \frac{2}{3} \) of what he had. What part of a whole pie did he eat?
   A) \( \frac{4}{5} + \frac{2}{3} \)
   B) \( \frac{4}{5} - \frac{2}{3} \)
   C) \( \frac{2}{3} \times \frac{4}{5} \)
   D) \( \frac{4}{5} \div \frac{2}{3} \)
   E) None of A–D

68. Alex ate \( \frac{1}{2} \) of a pizza. Tandy ate \( \frac{1}{3} \) of what was left. Finally, Tabby ate \( \frac{1}{2} \) of what was left. How much of the whole pizza did Tabby eat?

69. What calculation would solve this story problem?
   She paid $4.80 for \( \frac{3}{4} \) pound of candy. How much does the candy cost, per pound
   A) \( (4.80 \div 4) \times 4 \)
   B) \( 4.80 \times \frac{3}{4} \)
   C) \( 4.80 \div \frac{3}{4} \)
   D) \( 4.80 + 0.75 \)
   E) None of A–D
70. One day, Joe's old car used $\frac{5}{8}$ quarts of oil. The next day, it used only $\frac{2}{5}$ as much oil. How many quarts of oil did the car use on the second day? Which computation will answer the question?
A) $\frac{5}{8} + \frac{2}{5}$
B) $\frac{5}{8} \times \frac{2}{5}$
C) $\frac{5}{8} + \frac{2}{5}$
D) $\frac{2}{5} \div \frac{5}{8}$
E) None of A–D

71. On day 3, the old car used $1\frac{1}{4}$ quarts of oil! But on day 4, it used only $\frac{3}{5}$ quarts. How many quarts of oil did the car use? Which computation will answer the question?
A) $1\frac{1}{4} + \frac{3}{5}$
B) $1\frac{1}{4} - \frac{3}{5}$
C) $\frac{3}{5} \times 1\frac{1}{4}$
D) $1\frac{1}{4} \div \frac{3}{5}$
E) None of A–D

72. How many $\frac{2}{3}$ pound portions can be obtained from 30 pounds?
A) 20
B) 45
C) 60
D) 90
E) None of A–D

73. After the family had gone 140 miles, the children asked, “Are we getting close?” The driver said, “We've gone only $\frac{2}{7}$ of the way.” How far did the family still have to go?
A) 40 miles
B) 80 miles
C) 350 miles
D) 490 miles
E) None of A–D

74. Karen and Sue go bike riding. Karen biked for $3\frac{1}{3}$ hours, which was $\frac{2}{3}$ as many hours as Sara biked. How many hours did Sara bike?
A) $2\frac{2}{9}$
B) $2\frac{2}{3}$
C) 4
D) 5
E) None of A–D
Answer Key

1. You should have 1 large flat, 3 large longs, 4 small cubes, 2 small flats, 5 small rods and 6 small cubes.
2. You should have 1 large flat, 3 large longs, 4 small cubes, 2 small flats and then you should triple them and combine. Ask if you need help.
3. Ask if you need help.
4. Ask.
5. Ask.
6. 4*25=100, 5*25=125, 125/100=1.25.
7. Example: A grandmother had four grandchildren. She had $5.40 to give as Christmas gifts to the children, who all received the same amount. How much did each grandchild receive?
8. 0.02545.
9. Some possible ways: $4 \times 4 \times 5 \times 5 = 4 \times 5 \times 4 \times 5 = 20 \times 20 = 400$
   $(10 \times 25) + (6 \times 25) = 250 + 150 = 400$
   $(16 \times 20) + (16 \times 5) = 320 + 80 = 400$
   $16 \times \frac{100}{4} = 4 \times 100$ (after dividing 16 by 4) = 400
    B) 1000. Thinking: Given = $25 \times (29 + 11) = 25 \times 40 = 25 \times 4 \times 10 = 100 \times 10.$
11. A) 115. Change to 235 – 120, then work left-to-right.
    B) 18. 2% of 150 is 3, and 12% of 150 is 6 times as much as that.
    C) 10. $\frac{1}{5}$ of 25 will give the same number, and $\frac{1}{5}$ of 25 is 5.
12. A) 425. One way: $2575 + 25 = 2600$, plus 400 to get to 3000.
    Second way: Add 25 to each to change to 3025 – 2600.
    B) 18. 3/4 of 24. 1/4 of 24 is 6. 3 x 6 = 18.
    C) 480. $24 \times 13 + 24 \times 7 = 24 \times (13 + 7) = 24 \times 20.$
13. B
14. A
15. A) 30 + 57 = 87; 20 + 50 is 70, plus 9 is 79, plus 1 is 80, plus 7 is 87
    B) 76 – 30 = 46; 74 – 24 is 50, – 4 more is 46
    C) $4 \times 30 = 120; 8 \times 10 + 8 \times 5 = 80 + 40 = 120; 8 \times 5 = 40, 40 \times 3 = 120$
16. A) 32
    B) 45
    C) 2.8
    D) 71
    E) 3
    F) 24
    G) 60
    H) 28
17. A) Round 391 to 400 and 612 to 600; 400 x 600 = 240,000.
    B) Around 3/4 of 800, which is 600.
    C) 6 is a good estimate because a third of 18 is 6.
    D) Just under 50 because 2 x 25. (Also, since it is 4% of 25, or 1, less than that, the exact answer, 49, is fairly easy.)
18. Removing the 1 from 30 means we are removing one 92. Removing the 2 from 92 means we are removing two 31 or 62. Removing 62 would give us a better approximation than removing 92.
19. A) About $30. Thinking: 34% is about 1/3, and $89 is about $90. 1/3 of $90 is $30.
B) About 11,000. Thinking: 0.26 is about 1/4; round 43,135 to 44,000.
C) About 20,000. Thinking: 60 × 1/3 of 1000 = 20,000.
E) About 4800. Thinking: 1200 ÷ 1/4. Definitely take off points for answers such as 4800.0423.)

20. Greater than 20 since there will be more 1.99s in 40 than there are 2s.
21. C
22. A
23. A) 220.7. Explanation: The product is about 80 × 3 = 240.
   B) 278.5. Explanation: The quotient is about 1000 ÷ 4 = 250.
24. A from 40/500 = 4/50 = 8/100 = 8% , or possibly 40 ÷ 500 = (40 ÷ 5) ÷ 100 = 8 ÷ 100 = 8%
25. Ask.
26. C
27. A) 1.5 × 10^{11}  
   B) 3 × 10^{8}  
   C) 7.53 × 10^{-10}
28. (1.5 × 10^{11}) ÷ (3 × 10^{8}) = (15 × 10^{10}) ÷ (3 × 10^{8}) = 5 × 10^{2}  or 500 seconds; a little over 8 minutes.
29. 1 yard would be 4/7 of the rectangular region, then 3 1/3 would be 3 1/3 of those. 9 yards should cost $144 (if 7/4 yards cost $28, each 1/4 yard costs $4, so 1 yard costs $16).
30. B) False, although the part-whole interpretation might lead one to think so. Improper fractions are more than one.
31. Cut each unit into four equal pieces. Then the 3 = (3/4) + plus the 1/4, give 3 1/4 = (3×4)+1.(3×4)+1.
32. We usually expect a drawing of 2/3 of a region, and then added marks to that or to a copy cutting each third into two equal pieces, giving 4/6 for the same amount as the 2/3.
33. Just two regions like this, along with 4/5 of another
34. A) 0.65; 65%
   B) 89/100,000; 0.089%
   C) 1225/10000 (might be simplified to 49/400) 0.1225
   D) 10.75; 1075%
35. A) 651/1000
   B) 4/9
36. A) 0.4
   B) 0.285714
37. B) False. The fraction is equal to 1/6, which has factor of 3 in only the denominator.
38. 2.34561, 2.34562, 2.345601 (infinitely many possibilities)
39. When the numerator is about 1/4 of the denominator, OR when the denominator is close to 4 times the numerator.
40. 8/15 is half a fifteenth more than 1/2, and 3/7 is half a seventh less than 1/2. Since sevenths are larger than fifteenths, 3/7 will be farther away from 1/2 than 8/15 is, that is, 8/15 will be closer to 1/2.
41. a) E.g., Jorge had five candy bars. Three of them were Snickers. What fraction of his candy bars were Snickers?
   b) Jorge has a candy bar. three of the five rectangles are left. What fraction of his candy bar is left?
   c) Jorge has three candy bars. If he gives the three candy bars to his five friends, then how much of a candy bar will each friend receive?
42. Some examples: as part of a whole, 7 of 8 equal parts of a circular region; 7 of 8 discrete objects; as 7 ÷ 8; or as a ratio; or as a probability;
43. C
44. The zeros represent factors of 10, \( \frac{50}{10} = \frac{5 \times 10}{1 \times 10} \), and a common factor can be ignored. But the 3s in \( \frac{53}{17} \) do not represent common factors.

45. Hint: break the sticks in two.

46. Hint: group them in threes.

47. A) A drawing of a rectangle divided into 16 equal parts: 10 parts will be shaded for \( \frac{5}{8} \), but only 7 parts for \( \frac{7}{16} \).

B) This will require a rectangle divided into 12 equal parts. \( \frac{3}{4} \) will require 9 of the parts, whereas \( \frac{2}{3} \) will require only 8 of the parts.

C) Two rectangles each divided into 4 equal parts: \( 1 \frac{3}{4} \) will require 7 of those parts, whereas \( \frac{6}{4} \) will require only 6 of the parts.

48. A) 24, 48, 72,... B) 144, 288, 432,... C) 120, 240, 360,...

49. A) \( \frac{9}{5} \) B) \( \frac{x^2}{y \cdot z^4} \)

50. \( \frac{200}{303} \) \( \frac{6}{9} \) \( \frac{203}{300} \) \( \frac{9}{12} \)

51. A) \( \frac{3}{7} \) is less than \( \frac{4}{7} \); \( \frac{3}{7} = \frac{6}{14} \) and \( \frac{4}{7} = \frac{8}{14} \) so \( \frac{7}{14} \) is between \( \frac{3}{7} \) and \( \frac{4}{7} \).

52. Various possibilities, but in each the two quantities should be distinct, as in, “One recipe calls for \( 3 \frac{1}{2} \) cups of sugar, and another calls for \( 2 \frac{1}{3} \) cups of sugar. How much more sugar does the first recipe call for than the second?”

53. Because finding equivalent fractions that with a common denominator \( d \) allow us to add and subtract \( \frac{1}{d} \) units; that is, we have the same unit, or pieces of the same size, to use for each fraction.

54. \( \frac{3}{8} + \frac{1}{6} = \frac{13}{24} \), so the third child carried it \( \frac{13}{24} \) of the hike, the greatest part.

55. She has written \( 1\frac{1}{2} + 3\frac{1}{4} + 2\frac{1}{3} = 7 \frac{7}{12} \) pages, so she still has \( 10 - 7 \frac{7}{12} = 2 \frac{5}{12} \) pages to write.

56. Use drawings of \( \frac{3}{4} \) and then cut them into \( \frac{6}{8} \), add then add the \( \frac{5}{8} \) to it.

57. In the finished drawing, the unit has been cut into \( 4 \times 7 \) equal pieces, and the answer part (the x's) is \( 3 \times 5 \) of them.

58. i) F ii) B iii) D iv) G v) E

59. A) Most common is likely to be that first \( 2/3 \) is shaded and then, with cutting marks perpendicular to the first marks, \( 3/4 \) of the \( 2/3 \) is double shaded. Continuing the marks for the \( 3/4 \) of the \( 2/3 \) cuts the whole rectangle into twelths, and the double-shaded part is clearly \( 6/12 \). Other ways are reasonable.

B) \( 2/3 \) of the whole rectangle.

C) \( 3/4 \) of the \( 2/3 \) part of the whole rectangle.

60. Using a rectangular region cut into eighths, mark \( 3/8 \), then another \( 3/8 \). The remaining part is not enough for another \( 3/8 \), but it is \( 2/8 \) out of \( 3/8 \). So \( 2/3 \). Be sure to look for evidence for part B.

61. Other ways are possible; here are the ones we expect.
62. It should be clear from the drawing that 4/5 was shown first, then 1/3 of that for the covered part (OR 2/3 of the 4/5 for the uncovered part), with added segments to cut the whole region into (15) equal pieces. 8/15 of his body will not be protected.

63. A) The question is How many 1/4s are in 7/8? So 7/8 of the circular region should be shown, with 1/4s then being marked off. There will be three full 1/4s, and half of another 1/4, in 7/8. The answer is 3 1/2.

B) The question is How many 3/8s are in ¼? So 1/4 of the circular region should be shown. There is not a whole 3/8 in that 1/4, only a part of a 3/8. “Ghosting” in the rest of a 3/8 and the 1/8 markings should show that there is 2/3 of a 3/8 in 1/4. The answer is 2/3. (Note to instructor: Try to detect students who do the calculation but cannot show the meaning in the drawings.)

64. The question becomes How many 3/4 miles are there in 12 miles? (Each one of those will indicate an hour of catch-up time.) So, 12 ÷ 3/4 = 16. It will take 16 hours to catch up.

65. A) How many 3s are in, or make, 8 7/8

B) How much is in each share if 8 7/8 are shared equally among three

66. C

67. C

68. Alex leaves 1/2 of the pizza. Tandy ate 1/3 of that, which is 1/6 of the pizza, leaving 2/6 of the pizza. Tabby ate 1/2 of the 2/6 of pizza, so Tabby ate 1/6 of the pizza.