End-of-Year Test Answer Key

My suggestion for points per item is as follows. The total is 182 points. A score of 146 points is 80%.

Question #	Max. points	Student score
The Four Operations		
1	2 points	
2	6 points	
3	2 points	
4	4 points	
5	2 points	
6	2 points	
7	3 points	
	subtotal	/ 21
Large Numbers		
8	2 points	
9	1 point	
10	4 points	
11	1 point	
12	4 points	
	subtotal	/ 12
Problem Solving		
13a	2 points	
13b	2 points	
14	3 points	
15	3 points	
16	3 points	
17	3 points	
	subtotal	/ 16
Decimals		
18	4 points	
19	6 points	
20	3 points	
21	3 points	
22	3 points	
23	3 points	
24	9 points	
25	6 points	
26	9 points	
27	3 points	
28	3 points	
	subtotal	/52

Question #	Max. points	Student score
Graphs		
29	3 points	
30	4 points	
	subtotal	/7
Fractions		
31	3 points	
32	4 points	
33	4 points	
34	2 points	
35	4 points	
36	2 points	
37	5 points	
38	3 points	
39	2 points	
40	4 points	
41	2 points	
42	2 points	
43	4 points	
44	4 points	
	subtotal	/45
Geometry		
45	4 points	
46	3 points	
47	6 points	
48	2 points	
49	2 points	
50	3 points	
51a	1 point	
51b	2 points	
52	2 points	
53	4 points	
	subtotal	/29
	TOTAL	/182

The Four Operations

1. a. 45
   b. 409 344

2. a. $x = 296\ 430$
   b. $Y = 80$
   c. $N = 3304$

3. Any of these are correct:
   $4Y = 600$ or $4 \times Y = 600$ or $Y + Y + Y + Y = 600$ or $600 \div 4 = Y$ or $600 \div Y = 4$ or $600 - Y - Y - Y - Y = 0$.
   Solution: $Y = 150$.

4. a. 22   b. 48
   c. 37   d. 75

5. a. $42 \times 10 = (10 - 4) \times 70$
   b. $143 = 13 \times (5 + 6)$

6. No, it is not. Explanations vary. For example: It is an odd number, and therefore cannot be divisible by an even number.
   $991 \div 4 = 247$ R3, leaving a remainder, so 991 is not divisible by 4.

7. a. $26 = 2 \times 13$
   b. $40 = 2 \times 2 \times 2 \times 5$
   c. 59 is prime

Large Numbers

8. a. 70 016 090
   b. 32 000 232 000

9. 80 million or 80 000 000

10. a. 2 240 000 000   b. 7 800 900 000
    c. 150 000 000   d. 480 000

11. It is about $32\ 000 \times 300 = 9\ 600\ 000$. Other estimates are also possible.

12.

number	593 204	19 054 947
to the nearest 1000	593 000	19 055 000
to the nearest 10 000	590 000	19 050 000
to the nearest 100 000	600 000	19 100 000
to the nearest million	1 000 000	19 000 000

Problem Solving

13. a. $(\$19.95 - \$5) \times 5$ or $5 \times (\$19.95 - \$5)$. The total cost was $74.75.

    b. $\$4.68 \div 6 \times 10 = \$7.80$. The cost of ten songs is $7.80.

14. A 3-metre-long board is 300 centimetres. One-sixth of that is 300 cm $\div$ 6 = 50 cm. The remaining
    piece is 250 centimetres, or 2 m 50 cm.

15.
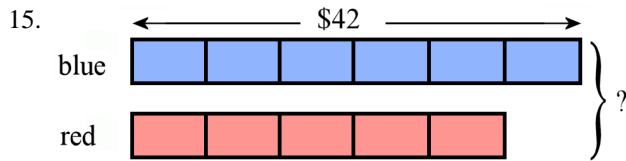
One block in the model is $42 ÷ 6 = $7. The red swimsuit costs $5 × $7 = $35. Together they cost $77.

16. a.
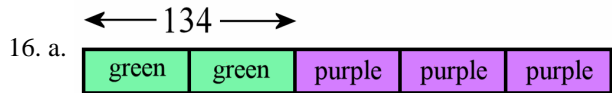
b. One block or part in the model is 134 ÷ 2 = 67 marbles. There are 3 × 67 = 201 purple marbles.

17. a. The DVD costs about $30. Karen pays 3/5 of it, which is about $30 ÷ 5 × 3 = $18. Ann pays about $12.

b. Karen pays $29.90 ÷ 5 × 3 = $17.94. Ann pays $11.96.

Decimals

18. a. 0.289   b. 0.30   c. 0.305   d. 0.313

19. a. 0.95   b. 0.72   c. 0.62   d. 1.26   e. 1.05   f. 0.37

20. a. 0.08   b. 0.081   c. 5.21

21. a. $\dfrac{48}{1000}$ b. $1\dfrac{4}{1000}$ c. $7\dfrac{22}{100}$

22. a. 0.31 > 0.031   b. 0.43 > 0.093   c. 1.6 > 1.29

23.

rounded to...	nearest one	nearest tenth	nearest hundredth
5.098	5	5.1	5.10

rounded to...	nearest one	nearest tenth	nearest hundredth
0.306	0	0.3	0.31

24.

a. $0.4 \times 7 = 2.8$	d. $10 \times 0.05 = 0.5$	g. $1.1 \times 0.3 = 0.33$
b. $0.4 \times 0.7 = 0.28$	e. $1000 \times 0.05 = 50$	h. $70 \times 0.9 = 63$
c. $0.4 \times 700 = 280$	f. $10^5 \times 0.5 = 50\ 000$	i. $20 \times 0.09 = 1.8$

25.

a. $0.36 \div 6 = 0.06$	c. $3 \div 100 = 0.03$	e. $16 \div 10^2 = 0.16$
b. $5.6 \div 7 = 0.8$	d. $0.7 \div 10 = 0.07$	f. $712 \div 10^3 = 0.712$

26.

a. 0.2 m = 20 cm	b. 0.4 L = 400 ml	c. 3670 mm = 3 m 670 mm
37 cm = 0.37 m	3.5 kg = 3 500 g	465 cm = 4 m 65 cm
2.9 km = 2 900 m	240 g = 0.24 kg	4060 g = 4 kg 60 g

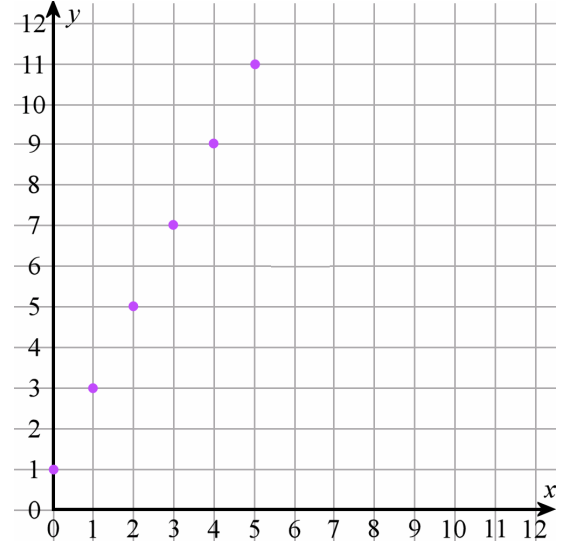27. There are 444 millilitres in two bowls. Two litres is 2000 ml. 2000 ml ÷ 9 = 222.2 ml or about 222 ml.
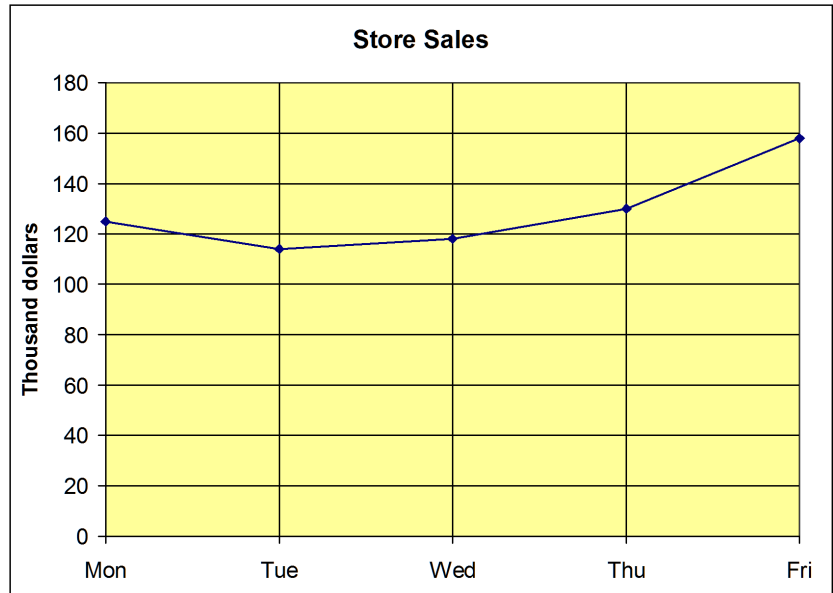
28. a. 1.42   b. 14.28   c. 14.08

Graphs

29.

x	0	1	2	3	4	5
y	1	3	5	7	9	11

30.

Day	Sales (1000 dollars)
Mon	125
Tue	114
Wed	118
Thu	130
Fri	158

a. See the line graph on the right.

b. The average daily sales is $129 000.

Store Sales

Fractions

31. a. 6 1/3
    b. 2 1/3
    c. 13 4/5

32.

| 0 | 1/3 5/12 | 4/6 3/4 | 1 |
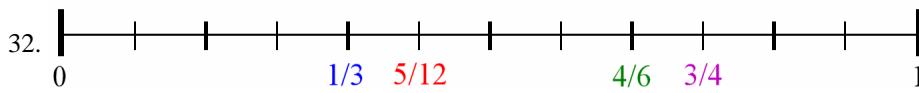
33.

~~a. $\dfrac{5}{6} = \dfrac{}{20}$~~	b. $\dfrac{2}{7} = \dfrac{8}{28}$	c. $\dfrac{3}{8} = \dfrac{15}{40}$	d. $\dfrac{2}{9} = \dfrac{6}{27}$

34. Mia found the common denominator (15) correctly, but forgot that the 2 fifths and the 2 thirds do not stay as 2 fifteenths in the conversion.
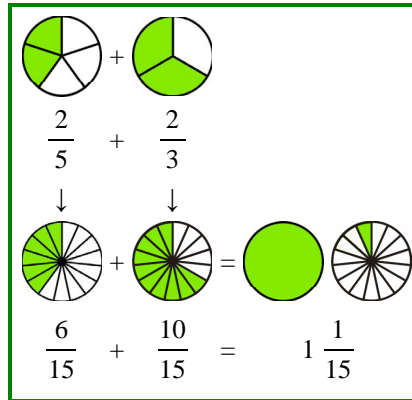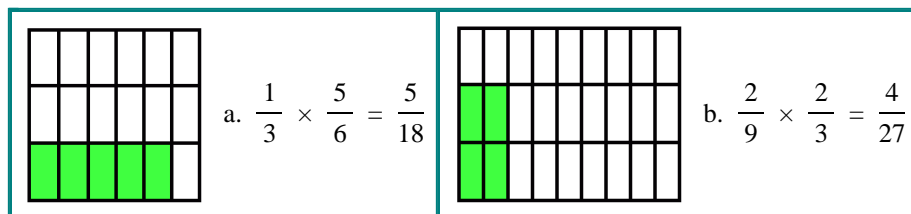
35. a. 1 1/6
    b. 7/15
    c. 5 5/8
    d. 10 5/18

36. You would need 3 × (2 3/4) = 8 1/4 cups of flour to make three batches of rolls.

$\dfrac{2}{5} + \dfrac{2}{3}$

$\dfrac{6}{15} + \dfrac{10}{15} = 1\dfrac{1}{15}$

37. a. $\dfrac{6}{9} > \dfrac{6}{13}$ b. $\dfrac{6}{13} < \dfrac{1}{2}$ c. $\dfrac{5}{10} > \dfrac{48}{100}$ d. $\dfrac{1}{4} = \dfrac{25}{100}$ e. $\dfrac{5}{7} > \dfrac{7}{10}$

38. a. 1 2/5
    b. cannot be simplified
    c. 7/8

39. Yes, it is correct. (2/3) × (1/2) = 1/3.

40.

a. $\dfrac{1}{3} \times \dfrac{5}{6} = \dfrac{5}{18}$ b. $\dfrac{2}{9} \times \dfrac{2}{3} = \dfrac{4}{27}$

41. You can cut 60 pieces: 15 m ÷ (1/4 m) = 60.

42. 1/6 of the pizza. (1/2) ÷ 3 = 1/6

43 a. >   b. <   c. <   d. =

44. a. 10 1/2
    b. 1/21
    c. 2 14/15
    d. 18

Geometry

45. Answers may vary. If you printed the test yourself, your printer may have scaled the document to fit, instead of printing it at 100%. Please check the measurements the student has given as his or her answer. Two possible sets of answers are:

    (Printed at 100%) The sides measure 7.9 cm, 6.8 cm, and 13.3 cm. The perimeter is 28 cm.

    (Print to fit) The sides might measure 7.5 cm, 6.5 cm, and 12.5 cm. The perimeter is 26.5 cm.

46. a. trapezoid
    b. rhombus
    c. parallelogram

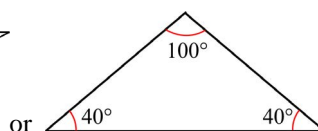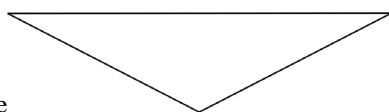47. Students can list the two attributes in either order.
    a. scalene and obtuse
    b. isosceles and acute
    c. scalene and right

48. A trapezoid is a quadrilateral with at least one pair of parallel sides.

	a rectangle	a parallelogram
49. a. Every rhombus is also...		x
b. Every square is also...	x	x

50. Yes, it can. For example or

51. a. $10 \times 3 \times 4 = 120$ cubic units
    b. The volume of one cube is $2 \text{ cm} \times 2 \text{ cm} \times 2 \text{ cm} = 8 \text{ cm}^3$. The volume of the prism is then $120 \times 8 \text{ cm}^3 = \underline{960 \text{ cm}^3}$.

52. The volume of four boxes is $4 \times 5 \text{ cm} \times 10 \text{ cm} \times 4 \text{ cm} = \underline{800 \text{ cm}^3}$.

53. a. $1.2 \text{ m} \times 0.6 \text{ m} \times 1 \text{ m} = 0.72 \text{ m}^3$.
    b. 240 litres. 0.72 m^3 is 720 litres, and one-third of that is $\underline{240 \text{ litres}}$.