

(with answers)

- Write your final answers in the column to the right of each problem. When necessary, number the problem and show your calculations on the paper provided.
- Include units** in your answers when appropriate (example \$, ft, kg).
- Reduce fractions** and **round decimals to the nearest tenth** in your answers, unless otherwise indicated.

Name: \_\_\_\_\_  
(please print)

Date: \_\_\_\_\_

Calculators may be used on this test.

Score: \_\_\_\_\_ /50 = \_\_\_\_\_ %

1. A pipefitter plans to drive from his home town to a job 532 km away. If he averages 38 km/hr, how many hours will it take to make the trip?	1.	14 hrs
2. A contractor bought 1440 floor tiles, then used 595 tiles on one house and 673 tiles to finish another job. How many did he have left over?	2.	172
3. A bricklayer used 29 bricks for each layer of a chimney he built. If the chimney was 247 layers high, how many bricks were used?	3.	7163
4. A carpenter used a \$347 income tax refund cheque to buy a few things for work. He bought a new circular saw for \$183, two cartons of nails for his air hammer for \$26 each, and a spirit level for \$38. How much money was left over?	4.	\$74
5. Find the height of a stack of 12 planks, if each one is $1\frac{5}{8}$ " thick.	5.	19½ inches
6. How many steel pins, each $2\frac{3}{8}$ " long, can be cut from a 60" length of stock? Allow $\frac{1}{16}$ " waste for each cut.	6.	24 pins
7. Convert 0.625 to a fraction in lowest terms.	7.	$\frac{5}{8}$
8. Convert $\frac{17}{32}$ to a decimal. (round to the nearest ten-thousandth)	8.	0.5313
9. True or false? $\frac{5}{32}$ is larger than 0.1625	9.	False
10. If 125 resistors have a total mass of 45 grams, what is the mass of each resistor? (round to nearest hundredth)	10.	0.36g
11. If the price of gasoline is \$1.249 per litre, what is the cost of 48.7 litres? (round to nearest cent)	11.	\$60.83

12.	7 km = _____ mi (nearest hundredth)	12.	4.35 Miles
13.	45 ft = _____ m	13.	13.7 metres
14.	240 g = _____ oz	14.	8.5 oz
15.	25 lb = _____ kg	15.	11.3 kg
16.	17.6 L = _____ US gal	16.	4.6 US gal
17.	1220 mm = _____ in	17.	48"
18.	Find the missing term in the proportion: $\frac{49}{21} = \frac{8}{n}$	18.	$n=3.4$
19.	The resistance of a wire is directly proportional to its length. If a copper wire 165 cm long has a resistance of 3.2 ohms, what length of the same wire would have a resistance of 2.24 ohms?	19.	115.5 cm.
20.	The pressure of a fluid is directly proportional to its depth. If the pressure is 100 kPa when the depth of fluid is 8 m, find the pressure when the depth is only 720 mm. (hint: depth units must be the same)	20.	9 kPa
21.	Convert $\frac{2}{9}$ to percent.	21.	22.2%
22.	Convert 1.3 to percent.	22.	130%
23.	1680 is 80% of what?	23.	2100
24.	What is $12\frac{1}{2}\%$ of 88?	24.	11
25.	The regular price of an exhaust fan is \$80, but a contractor made a bulk purchase of fans for \$66 each. What percent of the original price was the discounted price?	25.	82.5%

26. An employee received an 11% wage increase and now earns \$521.70 per week. What was her weekly wage before the increase?

26.

\$470

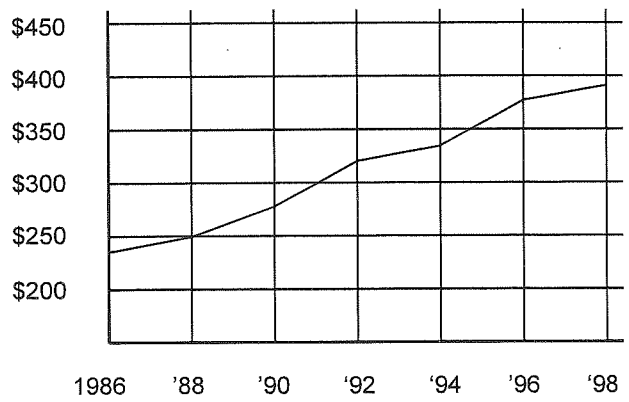
27.  $\left(\frac{3}{8}\right)^2 =$  \_\_\_\_\_

27.

$\frac{9}{64}$  or 0.14

The line graph shows the daily cost of a semi-private hospital room.

28. In what year was the daily cost approximately \$380?  
29. How much did the daily cost increase from 1990 to 1998?



28.

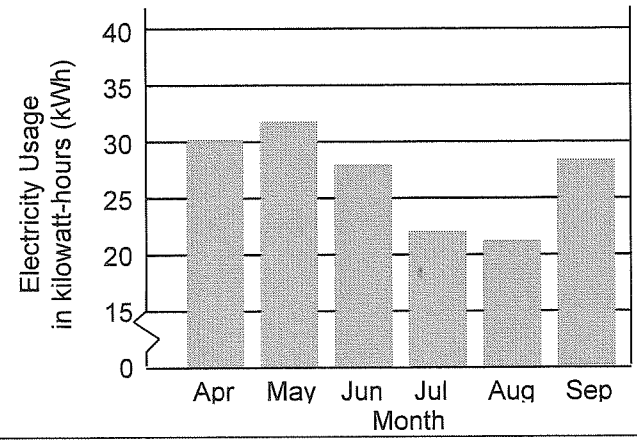
1996

29.

\$115 (\$25)

The bar graph shows a household's average daily usage of electricity.

30. In what month was electricity usage approximately 21 kWh?  
31. How much higher was daily usage in June than in July?



30.

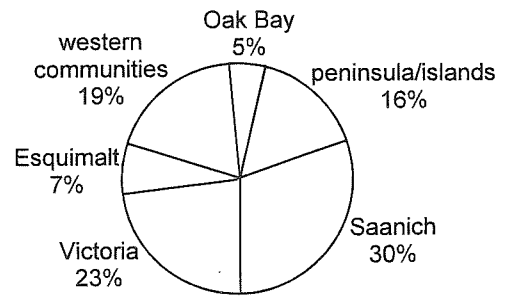
Aug

31.

6 kWh

The circle graph shows the proportion of Greater Victoria's population of 359,991 who live in each of its communities.

32. What percent of the population live in Victoria and Saanich combined?  
33. How many people live in Oak Bay?



32.

53%

33.

18000

34. The formula for the area of a trapezoid is  $A = h \left(\frac{s_1 + s_3}{2}\right)$ . Calculate the area  $A$  in square feet when the height  $h = 8$  ft, and the parallel sides  $s_1 = 17$  ft and  $s_3 = 22$  ft.

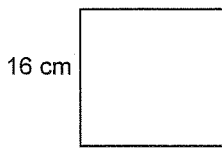
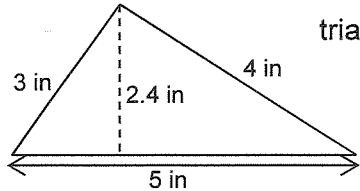
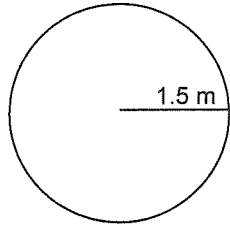
34.

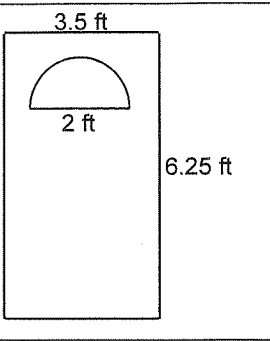
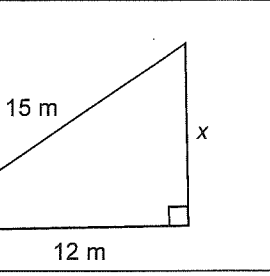
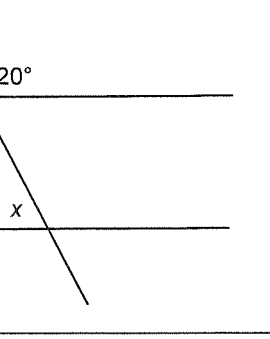
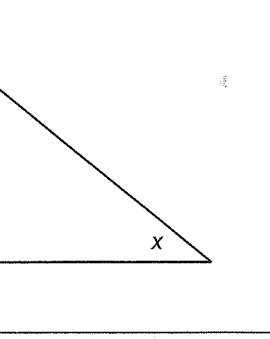
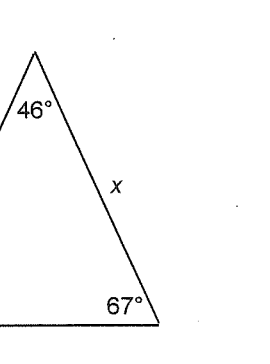
156 ft<sup>2</sup>

35. The formula for the length of a side of a cube is  $L = \sqrt[3]{V}$ . Calculate the length  $L$  in metres when the volume  $V = 2197$  m<sup>3</sup>.

35.

13m

<p>36. The Ohm's Law formula is <math>I = \frac{E}{R}</math>, which relates electrical current (<math>I</math>), voltage (<math>E</math>), and resistance (<math>R</math>). Calculate the resistance <math>R</math> in ohms when <math>I = 5</math> amps and <math>E = 110</math> volts.</p>	<p>36.</p> <p style="text-align: right;">22 ohms</p>
<p>37. The formula to convert temperature to degrees Fahrenheit (<math>F</math>) from degrees Celsius (<math>C</math>) is <math>F = \frac{9}{5}C + 32</math>. Convert <math>20^\circ C</math> to Fahrenheit.</p>	<p>37.</p> <p style="text-align: right;">68°F</p>
<p>38. The formula for force is <math>F = PA</math>. Calculate the force (<math>F</math>) in newtons when the pressure <math>P = 125000</math> Pa, and the area <math>A = 0.05</math> m<sup>2</sup>.</p>	<p>38.</p> <p style="text-align: right;">6250N</p>
<p>39. Find the perimeter of the square.</p> <div style="text-align: center;">  <p>16 cm</p> </div>	<p>39.</p> <p style="text-align: right;">64 cm</p>
<p>40. Find the area of the square in #39 above.</p>	<p>40.</p> <p style="text-align: right;">256 cm<sup>2</sup></p>
<p>41. Find the perimeter of the triangle.</p> <div style="text-align: center;">  </div>	<p>41.</p> <p style="text-align: right;">12 inch</p>
<p>42. Find the area of the triangle in #41 above.</p>	<p>42.</p> <p style="text-align: right;">6 in<sup>2</sup></p>
<p>43. Find the circumference of the circle. (use 3.1416 for <math>\pi</math> in #43-46)</p> <div style="text-align: center;">  </div>	<p>43.</p> <p style="text-align: right;">9.4m</p>
<p>44. Find the area of the circle in #43 above.</p>	<p>44.</p> <p style="text-align: right;">7.1m<sup>2</sup></p>
<p>45. A cylinder 15 cm high holds 3000 cm<sup>3</sup> of liquid. Find the diameter of the cylinder.</p>	<p>45.</p> <p style="text-align: right;">16.0 cm.</p>

<p>46. Find the cost of covering this restaurant door (excluding the window) with copper sheeting, which costs \$8.75/ft<sup>2</sup>. (round to nearest cent)</p>		<p>46.</p> <p style="text-align: right;"><i>\$177.56</i></p>
<p>47. Calculate side <math>x</math> in this right triangle.</p>		<p>47.</p> <p style="text-align: right;"><i>9m</i></p>
<p>48. Calculate angle <math>x</math> between these parallel lines.</p>		<p>48.</p> <p style="text-align: right;"><i>60°</i></p>
<p>49. Calculate angle <math>x</math> in this triangle.</p>		<p>49.</p> <p style="text-align: right;"><i>41°</i></p>
<p>50. Calculate side <math>x</math> in this triangle.</p>		<p>50.</p> <p style="text-align: right;"><i>7m</i></p>