

Calculator Test 13  
2010 - 2011

11. 
$$\left(15.99 + \frac{15.99}{2}\right)(1.0825) = \$25.96$$

12. 
$$\frac{\left(\frac{8 \text{ ft}}{1}\right)\left(\frac{12 \text{ in}}{1 \text{ ft}}\right)}{.004} = 24000$$

13. 
$$(80\%)(80) = 64 \text{ problems}$$
  
$$(25\%)(64) = 16 \text{ problems missed}$$
  
$$(5)(64) - (9)(16) = 176$$

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24. 
$$(12.7)^3 = 2050$$

25. 
$$(5\%)x = \$975.31$$
  
$$x = \frac{\$975.31}{.05}$$
  
$$x = \$19506.20$$

26. 
$$(x) + (x+1) + (x+2) = 30,569,211$$
  
$$3x + 3 = 30,569,211$$
  
$$3x = 30,569,208$$
  
$$x = \frac{30,569,208}{3}$$
  
$$x = 10189736$$
  
Largest integer is 10189738

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35. 
$$\frac{\left(\frac{55 \text{ gal}}{1}\right)\left(\frac{128 \text{ oz}}{1 \text{ gal}}\right)}{\left(\frac{5 \text{ oz}}{1 \text{ hr}}\right)} = 1410$$

36. 
$$\sin \theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$$
  
$$\sin 3 = \frac{x}{150}$$
  
$$x = (\sin 3)(150)$$
  
$$x = 7.85$$

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37.

$$A = \frac{bh}{2}$$

$$2A = bh$$

$$bh = 2A$$

$$h = \frac{2A}{b}$$

$$h = \frac{2(127.8)}{15.7}$$

$$h = 16.3$$

38.

$$A = \frac{h(b_1 + b_2)}{2}$$

$$= \frac{130(203 + 395)}{2}$$

$$= 38900$$

47.

$$8(483)^{783} = (8)\log(483)^{783}$$

$$= (8)(783 \log 483)$$

$$= (8)2101.5306\dots$$

Write  $\times 10^{2101}$  in the answer blank  
Subtract 2101 from the display  
Hit the  $10^x$  key and the display shows 3.39  
Multiply this times 8 which is 27.1  
Move the decimal to the left one place  
Write the answer  $2.71 \times 10^{2102}$

48.

$$5x - 8x^2 = -28$$

$$-8x^2 + 5x + 28 = 0$$

$$a = -8$$

$$b = 5$$

$$c = 28$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-5 \pm \sqrt{25 - 4(-8)28}}{2(8)}$$

$$x = \frac{-5 \pm 30.3}{16}$$

$$x = \frac{-5 + 30.3}{16}$$

$$x = 1.58\dots$$

$$x = \frac{-5 - 30.3}{16}$$

$$x = -2.21\dots$$

$$\text{sum} = 1.58\dots + (-2.21\dots)$$

$$= -.625$$

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49.

$$x = \sqrt{(6\pi)^2 - (2\pi)^2}$$
$$x = \sqrt{36\pi^2 - 4\pi^2}$$
$$x = \sqrt{32\pi^2}$$
$$x = \sqrt{32} \pi$$
$$x = 17.8$$

50.

$$\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$
$$\theta = \cos^{-1} \frac{\text{Adjacent}}{\text{Hypotenuse}}$$
$$\theta = \cos^{-1} \frac{998}{1461}$$
$$\theta = 46.9$$

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59.

$$\text{Distance Formula} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$
$$= \sqrt{(-15 - 22)^2 + (85 - 10)^2}$$
$$= \sqrt{(-37)^2 + (95)^2}$$
$$= 102$$

60.

100 Enter

12 (  $_n C_r$  key)

$1.05 \times 10^{15}$

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61.

$$V = \pi r^2 h$$
$$h = \frac{V}{\pi r^2}$$
$$h = \frac{8490500}{\pi (127)^2}$$
$$h = 168$$

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62.

$$A = \frac{nb^2}{4 \tan\left(\frac{\pi}{n}\right)}$$

$$nb^2 = A \left(4 \tan\left(\frac{\pi}{n}\right)\right)$$

$$b = \sqrt{\frac{A \left(4 \tan\left(\frac{\pi}{n}\right)\right)}{n}}$$

$$b = \sqrt{\frac{(1500) \left(4 \tan\left(\frac{\pi}{5}\right)\right)}{5}}$$

$$b = 29.5$$

$$\text{Perimeter} = (5)(29.5) = 148$$

71.

$$A = P(1+r)^{nt}$$

A = final amount  
P = principal amount  
= (initial investment)  
r = annual interest rate  
n = number of times the interest is compounded per year  
t = number of years

$$A = P(1+r)^{nt}$$

$$= (2500)(1+.035)^{20}$$

$$= \$4974.47$$

72.

$$P(\text{red}, \text{red}) = \left(\frac{83}{138}\right) \left(\frac{82}{137}\right)$$

$$= .360$$

73.

$$d = s\sqrt{2}$$

$$s = \frac{d}{\sqrt{2}}$$

$$r = \frac{s\sqrt{2}}{2}$$

$$SA = A_{\text{Circle}} - A_{\text{Square}}$$

$$= \pi r^2 - s^2$$

$$= \pi \left(\frac{275\sqrt{2}}{2}\right)^2 - 275^2$$

$$= 43200$$

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74.

$$V = \frac{4}{3}\pi r^3$$
$$r^3 = \frac{V}{\frac{4}{3}\pi}$$
$$r = \sqrt[3]{\frac{V}{\frac{4}{3}\pi}}$$

$$C = 2\pi r$$
$$C = 2\pi \sqrt[3]{\frac{V}{\frac{4}{3}\pi}}$$
$$C = 2\pi \sqrt[3]{\frac{.0025}{\frac{4}{3}\pi}}$$
$$C = .529$$