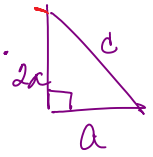
1.7 HW solutions

Monday, September 30, 2013
7:37 PM

16.



a = shortest side

$a^2+(2a)^2=c^2$

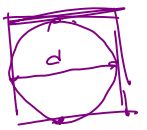
$a^2+4a^2=c^2$

$5a^2=c^2$

$c=\sqrt{5a^2}$

$=a\sqrt{5}$

19.



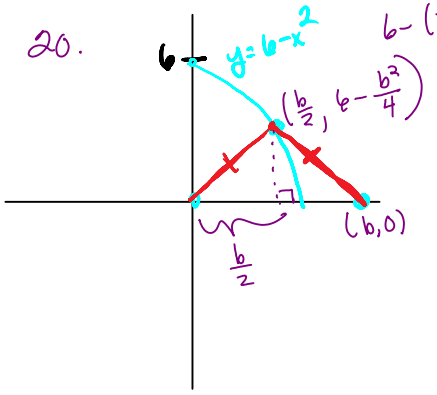
$d=2r$

$A=(2r)^2$ ← area of one face

$SA=6(2r)^2$

$=24r^2$

20.



$6-(\frac{b}{2})^2$

$h=6-\frac{b^2}{4}$

$A=\frac{1}{2}(b)(6-\frac{b^2}{4})$

$=\frac{1}{2}b(\frac{24-b^2}{4})$

$A=\frac{b(24-b^2)}{8}=\frac{24b-b^3}{8}$

21. let x = positive number

the other positive number $= 4x$

$x+4x=620$

$5x=620$

$x=124$

the other positive number $= 4(124)$

$=496$

124 & 496

22. let x = a number

2x = its double

3x = its triple

$x+2x+3x=714$

$6x=714$

$x=119$

119, 238, 357

23. let x = salary before raise

$1.036x=36432$

$x=\$35,200$

25. $D=rt$

$182=52t$

$t=3.5$ hrs

27. $\$.60(33)=19.8$

$.75(27)=20.25$

→ sells for cheaper

28. $25000+.05x<20000+.07x$

$5000<.02x$

$x>\$250000$

gross sales would need to exceed $250,000

x = gross sales

32. let x = amount 20% acid

let 25−x = amt. 35% acid

$.20x+.35(25-x)=.26(25)$

$.20x+8.75-.35x=6.5$

$-.15x=-2.25$

$250,000

29. $\frac{82,400,000 - 71,065,000}{71,065,000} \approx 0.1595$

There was a 15.95% increase

$.20x + .35(25-x) = 6.5$

$.20x + 8.75 - .35x = 6.5$

$-.15x = -2.25$

15 liters of 20%

10 liters of 35%

43. C 44. A 45. B 46. E

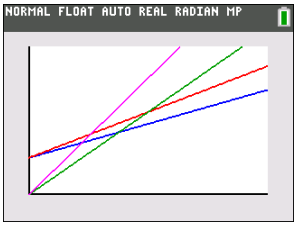
49. $u(x) = 23x + 125000$

$S(x) = (23+8)x + 125000$

$= 31x + 125000$

$R_u(x) = 56x$

$R_s(x) = 79x$



50. skip.

51. skip