1) $-6x = -24$ (E)

$x = 4$

2) $(-1)(1)$ (C)

3) $2\left(\frac{3a^3}{4}\right) = \frac{3a^3}{2}$ (A)

4) $360 - 280 = 80$

$\frac{80}{360} = \frac{2}{9}$ (C)

5) $a = b$ (D)

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6) $2a + a + 30 = 180$

$3a = 150$

$a = 50$ (C)

7) $4y = -3x + 24$

$y = -\frac{3}{4}x + 6$ (B)

8) $\frac{100(-.2) + 12}{(-.2)^3} = \frac{-20 + 12}{-.008} = \frac{8}{.008}$ (D)

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9) $(x+y)(x-y) = (x-y)$

$x+y = 1$

(B)

10) $4x^4 - 4 = 4$

$4x^4 = 8$

$x^4 = 2$

$\sqrt[4]{2} > 1$

$1.41 = \sqrt[4]{2}$

so

(C)

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11) $2000 + 150x = 1000 + 220x$

$1000 = 70x$

$\frac{100}{7} = x$

(B)!

14.MM 14 yrs 15 yrs

12) $l = 3w$

$P = 3(40)$

$P = 2l + 2w$

$A = s^2$

$100 = s^2$

$s = 10$

$P = 40$

$2l + 2w = 120$

$2(3w) + 2w = 120$

$8w = 120$

$w = 15$

$l = 45$

$A = 675$

(E)

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13) (D) $12 \div 2 = 6$
$12 \div 4 = 3$
$12 \div 8$ ∴

14) (E) $\sqrt{(-2-4)^2 + (5-(-3))^2} = \sqrt{36+64} = 10$

15) $\frac{.3}{75} = \frac{x}{420}$ $75x = 126$ $x = 1.7$ (A)

16) $s^2 + c^2 = 1$ $.36 + c^2 = 1$ $c^2 = .64$ $\cos A = .8$ (E)

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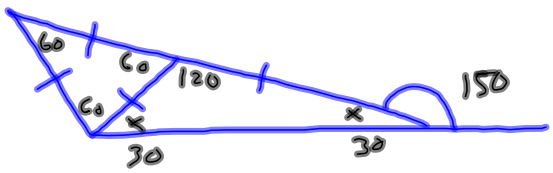
17) $25 * 90 = 2250$
$15 * 94 = 1410$
$840 / 10 \text{ boys} = 84$ (A)

18) 

(D)

19) $\tan 28 \approx \tan 30 = \frac{\sin 30}{\cos 30} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{1}{\sqrt{3}} \approx \frac{1}{1.7} > \frac{1}{2}$ (B)

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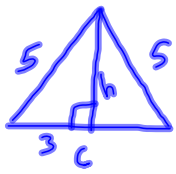
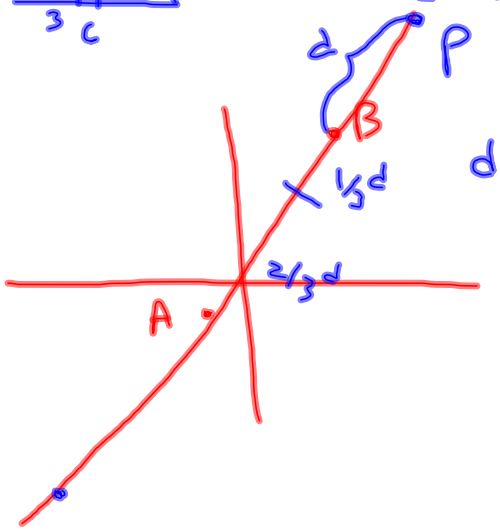
20) $3-2x=0$ $2x=3$ $x=\frac{3}{2}$ (E)

21) 

$h=4$

$A=\frac{1}{2}(6)(4)=12$ (B)

22) 

$d_A=2d_B$

(C)

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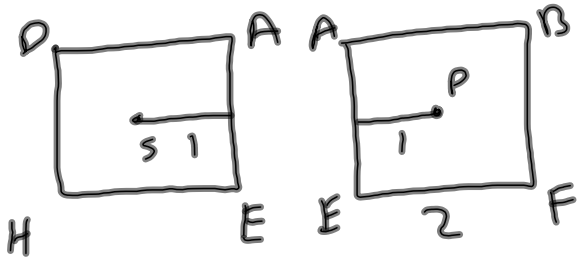
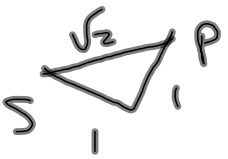
23) (B)





So $4\sqrt{2}$ is perimeter of PSRQ

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24) P1 P2 P3
$5 \cdot 4 \cdot 3 = 60$ (D)

25) I $x=y=5$ ✓
II $x=y=48$ ✓
III $x=y=77$ ✓
it doesn't say $x \neq y$
(E)

26) $A=\frac{1}{2}bh$ $\frac{5}{7}$
$\left(\frac{5}{7}\right)^2$ $\frac{25}{49}=\frac{10}{x}$ $x=\frac{490}{25}$
$=19.6$
(E)

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27) $3^{100} \cdot 2^{200} \cdot 5^{100} = 2^{20a} \cdot 3^{50b} \cdot 5^{50b}$
$20a=200$ $a=10$
$50b=100$ $b=2$
(B)

28) $x \times 8x$

$$\begin{array}{r} 9000 \\ -1000 \\ -800 \\ \hline 7200 \\ -720 \\ \hline 6480 \end{array}$$

(D)

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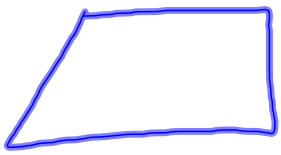
29)



→ "cold" ←

I ✓
II ✓
III ✓

(E)

30) $y = 3x - 6$

$y + 6 = 3x$

$\frac{1}{3}y + 2 = x$

(E) const must be 2

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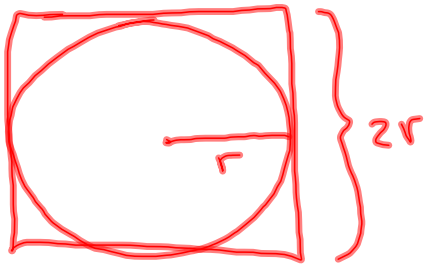
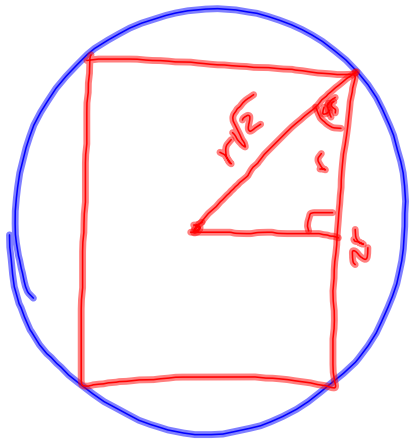
31)





outer Area $= \pi(r\sqrt{2})^2$

inner Area $= \pi r^2$

$\frac{2r^2}{r^2}$

(B)

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32) (B) $(x-h)^2+(y-k)^2=r^2$

33) $(2^{x^2-1})(2^{2x+4})=2^{3x+9}$

$x^2-1+2x+4=3x+9$

$x^2-x-6=0$

$(x-3)(x+2)=0$

$x=3,-2 \qquad x>0$ (C)

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34)

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