

(8.2)

(12)

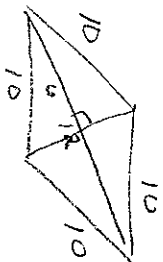
$$X^2 + X^2 = (10\sqrt{2})^2$$

$$2X^2 = 720$$

$$X^2 = 360$$

$$X = 60$$

(18)



$$6^2 + X^2 = 10^2$$

$$X^2 = 64$$

$$X = 8$$

$$\boxed{\text{diag} = 16}$$

(22)

$$6^2 + \left(\frac{1}{2}X\right)^2 = 8^2$$

$$36 + \frac{1}{4}X^2 = 64$$

$$\frac{1}{4}X^2 = 28$$

$$X^2 = 112$$

$$X = 4\sqrt{7}$$

(23)

$$21 - 11 = 10 \div 2 = 5$$

$$X^2 + 5^2 = 13^2$$

$$X^2 = 144$$

$$X = 12$$

(24)

$$12^2 + 10^2 = 15^2$$

$$b^2 = 81$$

$$b = 9$$

$$X = 9 + 9 + 10 = \boxed{28}$$

(25)

$$8^2 + 6^2 = X^2$$

$$100 = X^2$$

$$\boxed{10 = X}$$

(26)

$$4^2 + X^2 = 12^2$$

$$X^2 = 128$$

$$X = 8\sqrt{2}$$

(27)

$$6^2 + 15^2 = 17^2$$

$$81 + 15^2 = X^2$$

$$289 = X^2$$

$$X = 17$$

(28)

$$4^2 + 3^2 = 5^2$$

$$25 = 1^2$$

$$5 = \text{Hyp.}$$

$$4^2 + 3^2 = 5^2$$

$$25 = 1^2$$

$$5 = \text{Hyp.}$$

(29)

$$9^2 + 12^2 = 15^2$$

$$225 = C^2$$

$$15 = C$$

$$15^2 + X^2 = 25^2$$

$$X^2 = 400$$

$$X = 20$$

(30)

$$8^2 + 15^2 = 17^2$$

$$b^2 = 225$$

$$b = 15$$

$$8^2 + 10^2 = 10^2$$

$$0^2 = 36$$

$$0 = 6$$

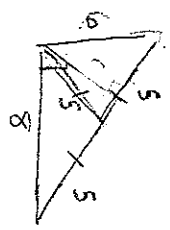
$$15^2 + 6^2 = X^2$$

$$225 = X^2$$

$$X = 15$$

$$\boxed{3 \times 29 = X}$$

31

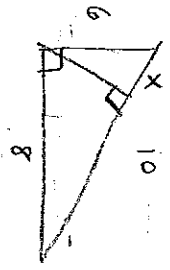


$$6^2 + 8^2 = 10^2$$

$$100 = c^2$$

$$10 = c$$

Median = 5
 (Mpt. of hyp. is equid. from vertices)



$$\frac{x}{6} = \frac{6}{10}$$

$$36 = 10x$$

$$3.6 = x$$

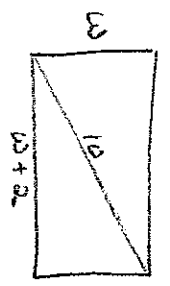
$$3.6^2 + 6^2 = 6^2$$

$$a^2 = 23.04$$

$$\boxed{a \cdot h = 4.8}$$

geom. mean

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$$w^2 + (w+2)^2 = 10^2$$

$$w^2 + w^2 + 4w + 4 = 100$$

$$2w^2 + 4w - 96 = 0$$

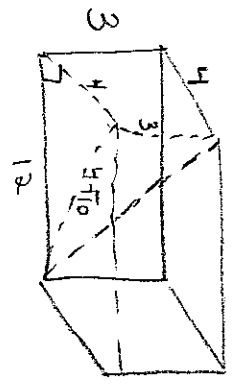
$$2(w^2 + 2w - 48) = 0$$

$$2(w-6)(w+8) = 0$$

$$w = 6, \cancel{w = -8}$$

$$6 + 6 + 8 + 8 = \boxed{28}$$

33



$$12^2 + 4^2 = b^2$$

$$160 = b^2$$

$$4\sqrt{10} = b$$

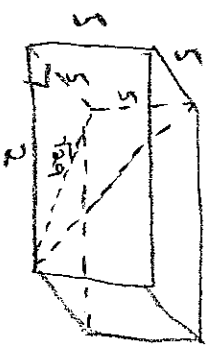
$$3^2 + (4\sqrt{10})^2 = d^2$$

$$9 + 160 = d^2$$

$$\sqrt{169} = d$$

$$\boxed{13 = d}$$

34



$$5^2 + 2^2 = b^2$$

$$29 = b^2$$

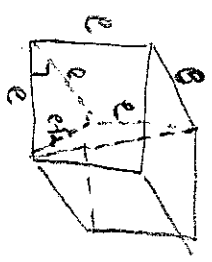
$$\sqrt{29} = b$$

$$5^3 + (\sqrt{29})^2 = d^2$$

$$54 = d^2$$

$$\boxed{3\sqrt{6} = d}$$

35



$$e^2 + e^2 = b^2$$

$$2e^2 = b^2$$

$$\sqrt{2e^2} = b$$

$$e\sqrt{2} = b$$

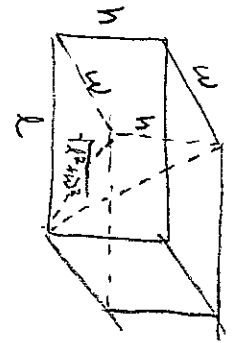
$$e^2 + (e\sqrt{2})^2 = d^2$$

$$e^2 + 2e^2 = d^2$$

$$3e^2 = d^2$$

$$\boxed{e\sqrt{3} = d}$$

36



$$\sqrt{l^2 + w^2} = b^2$$

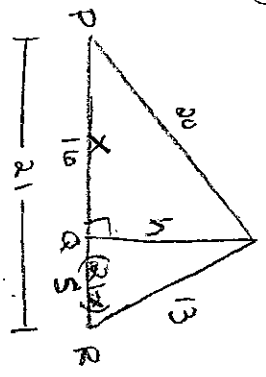
$$\sqrt{l^2 + w^2} = b$$

$$h^2 + (\sqrt{l^2 + w^2})^2 = d^2$$

$$h^2 + l^2 + w^2 = d^2$$

$$\sqrt{h^2 + l^2 + w^2} = d$$

37



$$5^2 + h^2 = 13^2$$

$$h^2 = 144$$

$$h = 12$$

$$h^2 + x^2 = 20^2$$

$$h^2 = 20^2 - x^2$$

$$h^2 + (21-x)^2 = 13^2$$

$$h^2 = 13^2 - (21-x)^2$$

$$20^2 - x^2 = 13^2 - (21-x)^2$$

$$400 - x^2 = 169 - (441 - 42x + x^2)$$

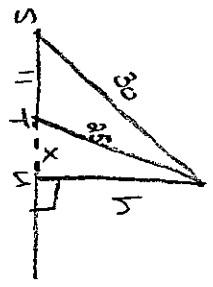
$$400 - x^2 = 169 - 441 + 42x - x^2$$

$$400 = -272 + 42x$$

$$672 = 42x$$

$$16 = x$$

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$$h^2 + x^2 = 25^2$$

$$h^2 = 25^2 - x^2$$

$$h^2 + (11+x)^2 = 30^2$$

$$h^2 = 30^2 - (11+x)^2$$

$$25^2 - x^2 = 30^2 - (11+x)^2$$

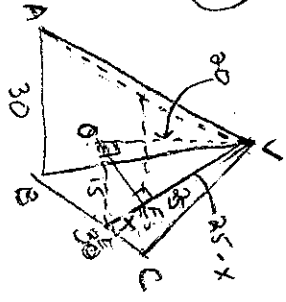
$$625 - x^2 = 900 - 121 - 22x - x^2$$

$$625 = 779 - 22x$$

$$-154 = -22x$$

$$7 = x$$

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$$7^2 + h^2 = 25^2$$

$$h^2 = 576$$

$$h = 24$$

$$20^2 + 15^2 = h^2$$

$$25 = h$$

$$x^2 + OE^2 = 15^2$$

$$OE^2 = 15^2 - x^2$$

$$OE^2 = 20^2 - (25-x)^2$$

$$9^2 + OE^2 = 15^2$$

$$OE^2 = 144$$

$$OE = 12$$

$$x^2 + OE^2 = 15^2$$

$$15^2 - x^2 = 20^2 - (25-x)^2$$

$$225 - x^2 = 400 - (625 - 50x + x^2)$$

$$225 - x^2 = 400 - 625 + 50x - x^2$$

$$225 = -225 + 50x$$

$$450 = 50x$$

$$9 = x$$

