REVIEW PROBLEMS

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Adv Geo – Per
Tues 19 Mar 2013

AMDG

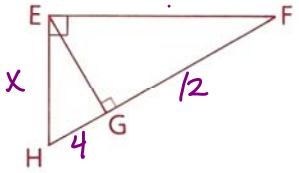
Problem Set A

1 **a** Find GF if HG = 4 and EG = 6.

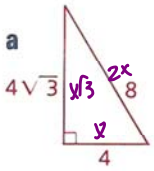
b Find EH if GH = 4 and GF = 12.

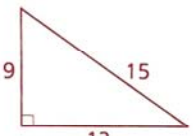
c Find HF if EF = $2\sqrt{5}$ and GF = 4.

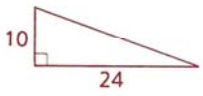
d Find HF if EH = 2 and EF = 3.

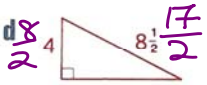


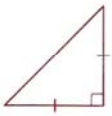
2 Identify the family of each of these special right triangles.

a 

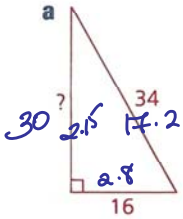
b 

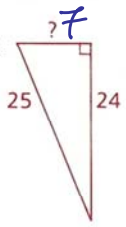
c 

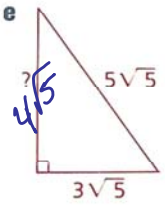
d 

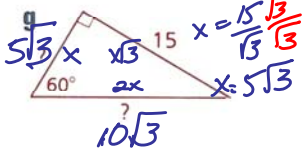
e 

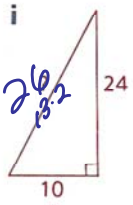
3 Find the missing lengths.

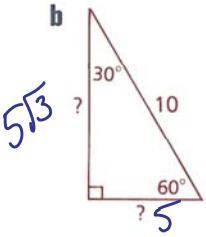
a 

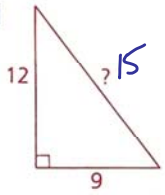
c 

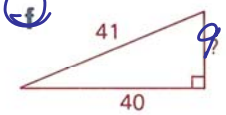
e 

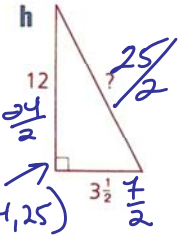
g 

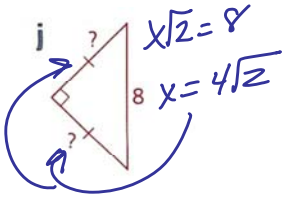
i 

b 

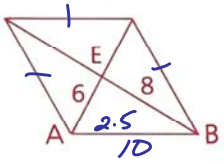
d 

f 

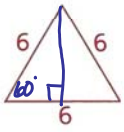
h 

j 

4 If AE = 6 and BE = 8, what is the perimeter of the rhombus shown?

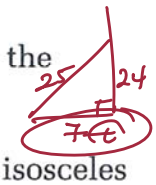


5 Find the altitude of the triangle shown.



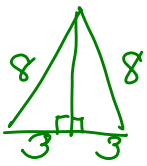
6 Vail skied 2 km north, 2 km west, 1 km north, and 2 km west. How far was she from her starting point?

7 A 25-ft ladder just reaches a point on a wall 24 ft above the ground. How far is the foot of the ladder from the wall?



8 Find, to the nearest tenth, the altitude to the base of an isosceles triangle whose sides have lengths of 8, 6, and 8.

$8^2 = 3^2 + a^2 \rightarrow 64 - 9 = a^2 \rightarrow \sqrt{55} = a$

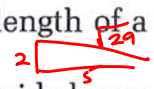


9 If the altitude of an equilateral triangle is $8\sqrt{3}$, find the perimeter of the triangle.

30 60 90
x $x\sqrt{3}$ 2x
8 $8\sqrt{3}$ 16

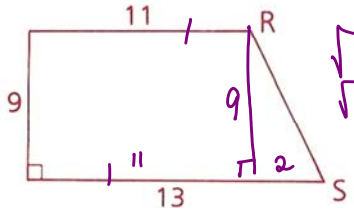
$P: 3(16) = 30 + 18 = 48$

10 What is the length of a diagonal of a 2-by-5 rectangle?



$\sqrt{2^2+5^2}$ $\sqrt{29}$

11 In the trapezoid shown, find RS.



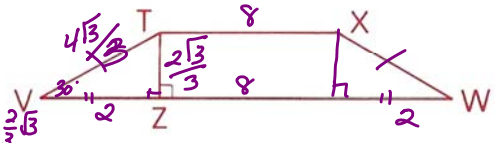
$\sqrt{9^2+2^2} = RS$

$\sqrt{85} = RS$

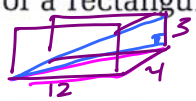
12 Given: TVWX is an isosceles trapezoid.
TX = 8, VW = 12, ∠V = 30°
Find: TV and TZ

30 60 90 → IF $x\sqrt{3} = 2$
x $x\sqrt{3}$ 2x
$\frac{2}{3}\sqrt{3}$ 2 $\frac{4}{3}\sqrt{3}$

$x = \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$

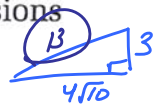


13 Find the diagonal of a rectangular solid whose dimensions are 4, 3, and 12.



$4 \rightarrow 4(1, 3\sqrt{10})$

$4(1^2+3^2=10$

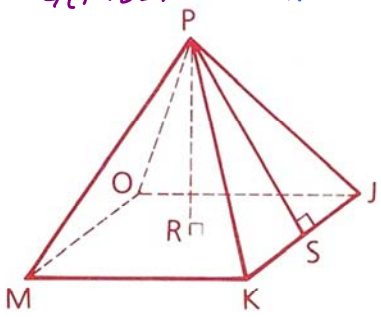


$3 \rightarrow (3, 4\sqrt{10}, 13)$

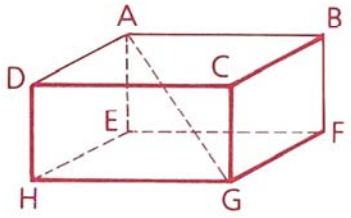
$3^2+(4\sqrt{10})^2$

$9 + 160 = 169$

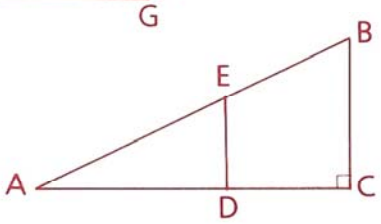
14 Given: The regular square pyramid shown,
PR = 20, PS = 25
Find: The perimeter of base JKMO



15 In the rectangular solid shown, find AG to the nearest tenth if DC = 12, CG = 7, and AD = 4.

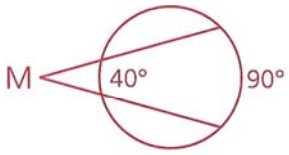


16 Given: $\overline{AC} \perp \overline{CB}$, $\overline{DE} \parallel \overline{CB}$,
AC = 15, AB = 17, DE = 4
Find: **a** CB **b** AD **c** AE **d** EB **e** DC

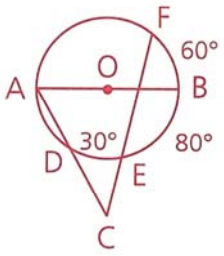


17 Find the distance from A to B if A = (1, 11) and B = (4, 15).

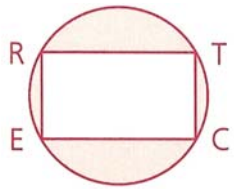
18 Given: Diagram as marked
Find: m∠M



19 Given: ⊙O, $m\widehat{DE} = 30$, $m\widehat{EB} = 80$, $m\widehat{BF} = 60$
Find: **a** $m\widehat{AF}$
b m∠C
c m∠BAD

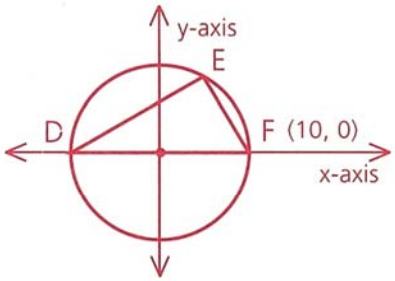


20 Given: RECT is a rectangle.
RE = 6, EC = 8
Find: **a** The measure of $\widehat{RTC}$
b The length of $\widehat{RTC}$
c The area of the shaded region to the nearest tenth

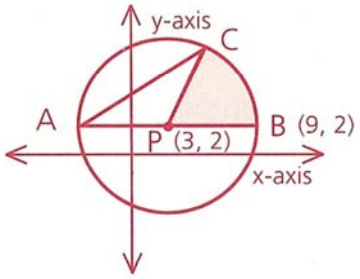


Problem Set B

21 **a** Find m∠DEF.
b Find $m\widehat{DEF}$.
c Find the length of $\widehat{DEF}$.

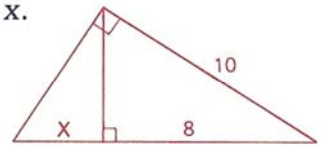


22 Given: ⊙P, ∠CAB = 30°
Find: **a** $m\widehat{BC}$
b $m\widehat{AC}$
c The length of $\widehat{BC}$
d The area of the shaded region

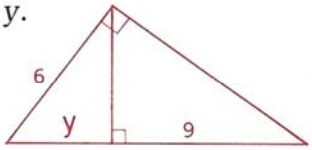


23 Two boats leave the harbor at 9:00 A.M. Boat A sails north at 20 km/hr. Boat B sails west at 15 km/hr. How far apart are the two boats at noon?

24 **a** Find x.

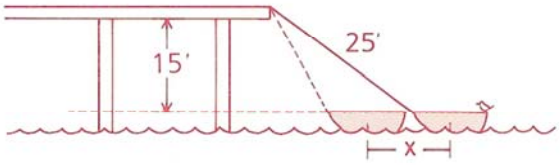


b Find y.

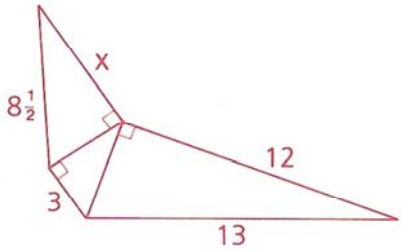


25 A boy standing on the shore of a lake 1 mi wide wants to reach the "Golden Arches" 3 mi down the shore on the opposite side of the lake. If he swims at 2 mph and walks at 4 mph, is it quicker for him to swim directly across the lake and then walk to the Golden Arches or to swim directly to the Golden Arches?

26 A boat is tied to a pier by a 25′ rope. The pier is 15′ above the boat. If 8′ of rope is pulled in, how many feet will the boat move forward?



27 Find x.



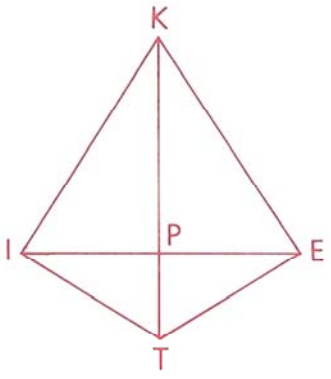
28 Follow the treasure map of Captain Zig Zag to see how far the treasure is from the old stump.

From the ol' pirate stump take ye 30 paces east, then 20 paces north, 6 paces west, and then another 25 paces north, and there ye find my treasure

29 Given: Kite KITE with right ∠s KIT and KET,
KP = 9, TP = 4

Find: **a** IE

b The perimeter of KITE



30 Given: RECT is a rectangle.
$\overline{CE} \parallel$ y-axis,
$\overline{RE} \parallel$ x-axis.

a Find the coordinates of E.

b Find the area of RECT.

c Find, to the nearest tenth, the length of $\overline{RC}$.