Chapter 6 – Exam Practice

1) Find the measure of a single interior and exterior angle of a regular nonagon.

Interior Angle = __140°__ $(n-2) \cdot 180 = (9-2) \cdot 180 = 1260 \div 9 = \boxed{140}$

Exterior Angle = __40°__ $360 \div 9 = \boxed{40}$

2) The sum of the interior angles of a ~~regular~~ polygon is 2880°. How many sides does the polygon have?

Sides = __18__ $\dfrac{(n-2) \cdot 180}{n} = 2880$

For #13-27: Find the missing measure(s).

3) $x° =$ __103°__
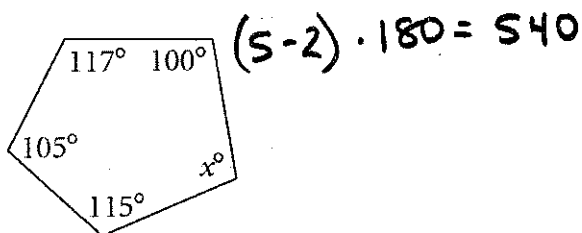
$(5-2) \cdot 180 = 540$

117° 100°
105°
$x°$
115°

4) $a° =$ __132__ $b° =$ __48__

Figure is a parallelogram.
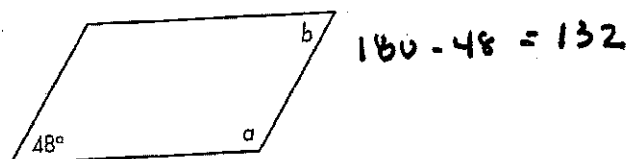
$180 - 48 = 132$

b
a
48°

5) $x° =$ __72__ $y° =$ __61__

$180 - 90 - 18 = 72$

$180 - 90 - 29 = 61$

18° x
y
29° 29°

6) $x° =$ __50__

$360 - 310$

51°   43°
37°
61°
40°
78°
$x°$
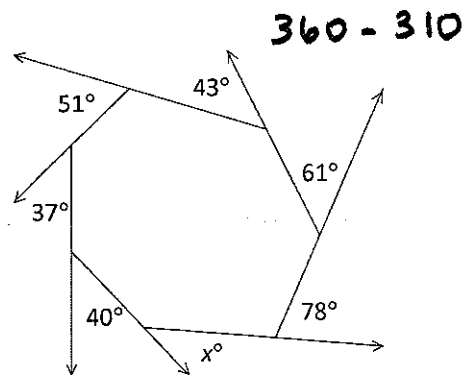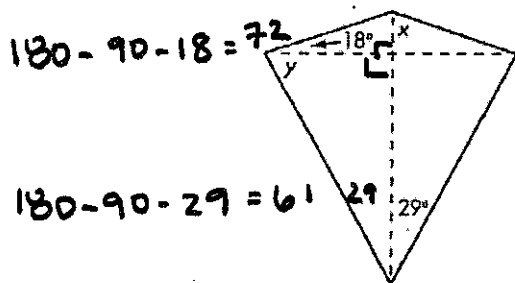
7) $\angle 1 =$ __~~???~~ 55__ $\angle 2 =$ __105__

$\angle 3 =$ __55__

Figure is a parallelogram.

1
50°
75° 75°
2
3

8)   WE = __20__

Figure is a rectangle.

K   E
10
W   R

9) $x° =$ __16__ $y° =$ __116__

$(6x + 20)°$

116° $y°$

$(4x)°$
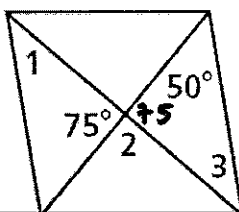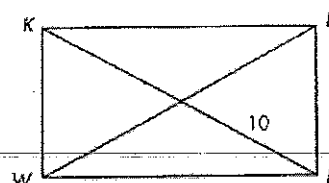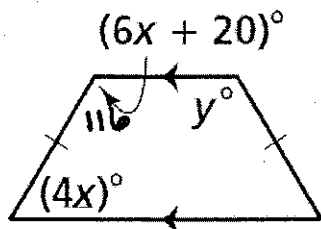
$6x + 20 + 4x = 180$

$10x + 20 = 180$

$\dfrac{10x}{10} = \dfrac{160}{10}$

$x = \cancel{18}\ 16$

10) $\angle 1 =$ __72__ $\angle 2 =$ __54__

$\angle 3 =$ __54°__ $\angle 4 =$ __72__

Figure is a parallelogram.

54°

1   4

2 | 3

54
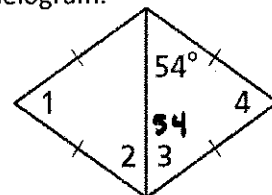
11) $x =$ __6__ $y =$ __3__

Figure is a parallelogram.

$5x - 4 = 2x + 14$

$3x = 18$ $x = 2y$

$x = 6$ $6 = 2y$

M

x

$5x - 4$

I $2y$

$2x + 14$ A

P

12) $x° =$ __45__ $y° =$ __90__

Figure is a square.

E   R

y

S x Q

13) $x° =$ __21__ $y° =$ __146__

Figure is a kite.

$360 - 146 - 146 - 47$

146°

x 47°

y
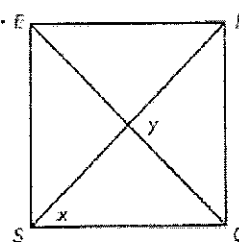
14) $y =$ __44__

Isosceles Trapezoid perimeter = 164

$y + 12$

$y - 12$

$y - 12$

y

$4y - 12 = 164$

$4y = 176$

$y = 44$
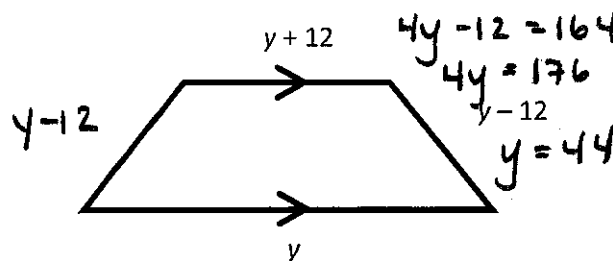
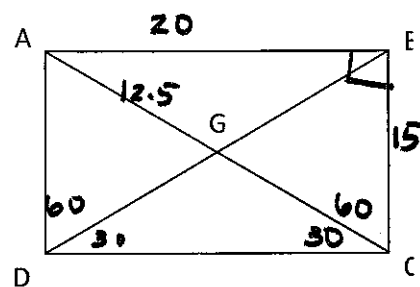15) $m =$ __14__

Figure is a parallelogram.
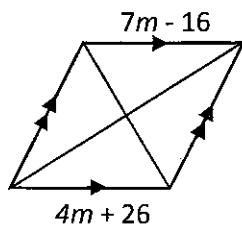
$7m - 16$

$4m + 26$

$7m - 16 = 4m + 26$

$3m = 42$

$m = 14$

16) The figure is a rectangle.

$\angle ACB = 60°$ $AB = 20$

$BC = 15$ $AG = 12.5$

A   20   E

12.5

G

60   60

30   30

D   C
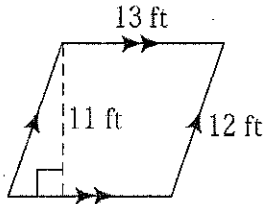
15

$\angle ADG =$ __60°__ $GC =$ __12.5__

$\angle ACD =$ __30°__ $BD =$ __25__

$20^2 + 15^2 =$

Chapter 7 – Exam Practice

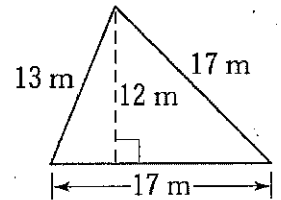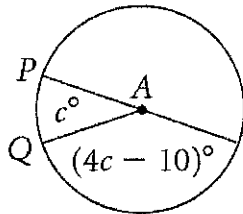**For #1-18:** Find the missing values for each problem.

1) Area = **143 ft²**

13 ft

11 ft   12 ft

$A = bh$
$A = 13(11)$
$= 143$

2) Area = **102 m²**

$A = \frac{1}{2}bh$
$= \frac{1}{2}(17)(12)$
$= 102$

13 m   12 m   17 m

17 m

3) $c° =$ **38°**

P
$c°$ A
Q $(4c - 10)°$

$c + 4c - 10 = 180$
$5c - 10 = 180$
$5c = 190$
$c = 38$

4) Area = **15 in²**

$A = \frac{1}{2}h(b_1 + b_2)$
$= \frac{1}{2}(3)(4+6)$
$= 15$

4 in.
3 in.
6 in.
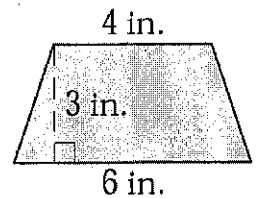
5) Area = **256π un²**

Circumference = **32π un**

(Leave your answer in terms of π)

16

6) $x =$ **15 un**

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

12   x
9
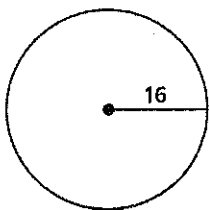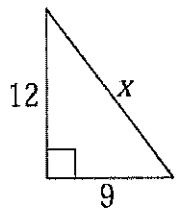
7) Area = **24√3 cm²**

(Leave your answer exact)

Regular Hexagon
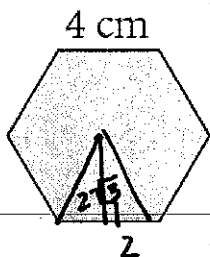
4 cm

$A = \frac{1}{2}aP$
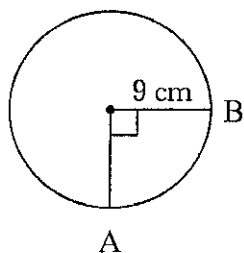$= \frac{1}{2}(2\sqrt{3})24$
$= 24\sqrt{3}$

$\frac{2\sqrt{3}}{2}$

8) Shaded Area = **$\frac{81}{8}$ π cm²**

(Leave your answer in terms of π)

$\frac{45}{360} \cdot \pi r^2$
$\frac{1}{8} \cdot \pi 9^2$
$\frac{1}{8} \cdot 81\pi$

45°   135°
18 cm
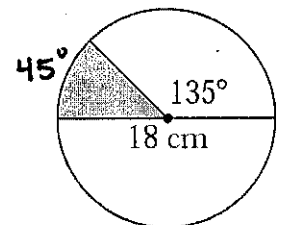
9) Length $\overset{\frown}{AB}$ = $\dfrac{9}{2}\pi$ cm

(Leave your answer in terms of π)

$\dfrac{1}{4}\cdot\pi d$

$\dfrac{1}{4}\cdot 18\pi$

$\dfrac{18}{4}\pi$
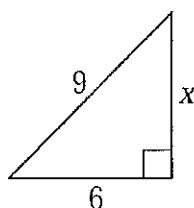
10) Area = $6\frac{1}{4}\sqrt{3}$ mm^2

(Leave your answer exact)

Equilateral Triangle

$A = \dfrac{1}{2}bh$

$= \dfrac{1}{2}(5)(2.5\sqrt{3})$

$= 6\frac{1}{4}\sqrt{3}$
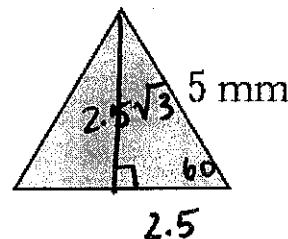
11) x = $3\sqrt{5}$

(Leave your answer exact)

$6^2 + x^2 = 9^2$
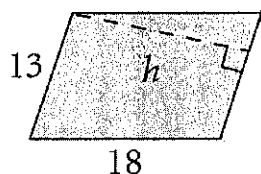
$x^2 = 45$

$x = \sqrt{45}$

$= \sqrt{9}\cdot\sqrt{5}$

$= 3\sqrt{5}$

12) Area = $12\sqrt{7}$ cm^2

(Leave your answer exact)

$6^2 + x^2 = 8^2$

$x^2 = 28$

$x = \sqrt{28}$

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

$= 2\sqrt{7}$

$A = \dfrac{1}{2}bh$

$= \dfrac{1}{2}(12)2\sqrt{7}$

$= 12\sqrt{7}$
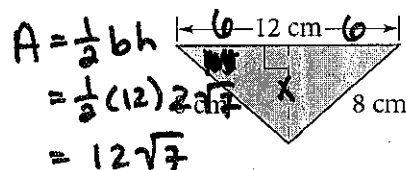
13) h = 24.2 un

Parallelogram's Area = 315 square units

$A = bh$

$315 = 13(h)$

$h = 24.2$

14) Area = 72 cm^2

(Leave your answer exact)

Square

$\dfrac{\sqrt{2}}{\sqrt{2}}\cdot\dfrac{6}{\sqrt{2}} = \dfrac{x\sqrt{2}}{\sqrt{2}}$

$\dfrac{6\sqrt{2}}{2} = 3\sqrt{2}$

side $= 6\sqrt{2}$

$6\sqrt{2}\cdot 6\sqrt{2}$

$36\sqrt{4}$

$36\cdot 2 = 72$
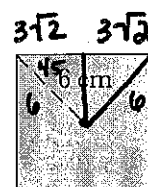
15) x = 12

(Leave your answer exact)

$\dfrac{8\sqrt{3}}{2} = \dfrac{2x}{2}$

$4\sqrt{3} = x$

$4\sqrt{3}\cdot\sqrt{3}$
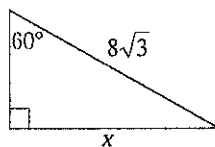
$4\sqrt{9} = 12$

16) Shaded Area = $\dfrac{49}{3}\pi$ ft^2

(Leave your answer in terms of π)

$= \dfrac{1}{3}\pi r^2$

$= \dfrac{1}{3}\pi(7)^2 = \dfrac{49}{3}\pi$
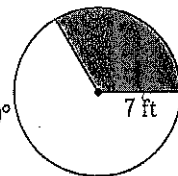
17) Area = $36 + 8\sqrt{3}$ ft^2

(Leave your answer exact)
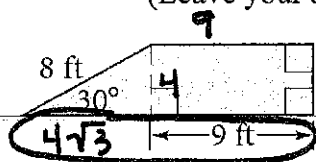
$A = \dfrac{1}{2}h(b_1+b_2)$

$= \dfrac{1}{2}(4)(9+9+4\sqrt{3})$

$= 2(18+4\sqrt{3})$

$= 36+8\sqrt{3}$

18) $m\overset{\frown}{AB}$ = $120°$

Length of $\overset{\frown}{AB} = 2\pi$ cm

$2\pi = \dfrac{a}{360}\cdot\pi d$

$2\pi = \dfrac{a\cdot\pi 6}{360}$

$2 = \dfrac{a}{60}$ $a = 120$
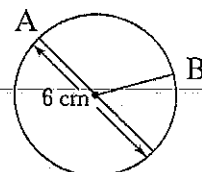
Chapter 11 – Exam Practice

For #1-12: Find the missing value. Look at each problem for special instructions on rounding.

1) $m \overset{\frown}{BTC}$ = __218°__

2) $m \overset{\frown}{CD}$ = __52°__

3) $m \overset{\frown}{TBD}$ = __180°__
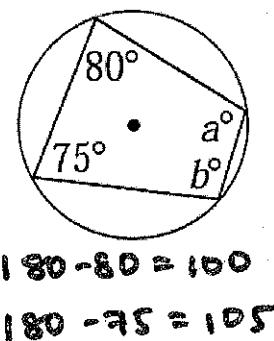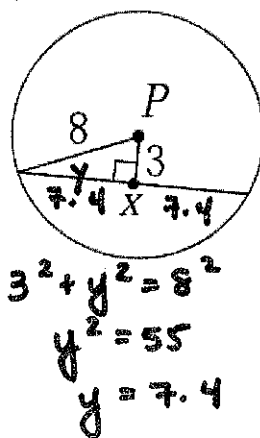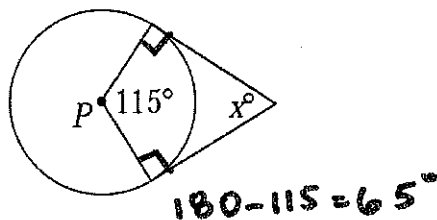
128°

T 128° C 52

90 P D

B 90°

4) $a°$ = ~~154°~~

$b°$ = __76°__

$a°$ $b°$

76 54°

27 77°

5) $x°$ = __65°__

P • 115° $x°$

180 - 115 = 65°

6) x = __14.8 un__

(Round to the nearest tenth)

P

8 3

7.4 X 7.4

$3^2 + y^2 = 8^2$

$y^2 = 55$

$y = 7.4$

7) $a°$ = __105°__

$b°$ = __100°__

80°

$a°$

75° $b°$

180 - 80 = 100

180 - 75 = 105

8) x = __$2\sqrt{7}$ un__

(Leave answer exact)

12

X

8 16

$6^2 + x^2 = 8^2$

$x^2 = 28$

$x = \sqrt{28}$

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

$= 2\sqrt{7}$

9) x = __10 un__

8

6

P X

10) $a°$ = __38°__

$b°$ = ~~~~52°

$c°$ = __104°__

$d°$ = ~~~~90°

104

$c°$ 76°

$d°$

$a°$ $b°$

32°

11) $x° =$ __50°__

J

$15\pi = \frac{a}{360} \cdot \pi d$

$15\pi = \frac{a}{360} \cdot 54\pi$

15π

$20 \times 15 = \frac{3a}{20} \times 20$

$300 = 3a$

27

$x°$

L $a = \frac{100}{2}$

K

$\frac{4.2}{x} = \frac{5}{4.5}$

$18.9 = 5x$

$x = 3.78$

$x = 50$

12) $x =$ __3.8 un__

(Round to the nearest tenth)

4.2

5

x

4.5   2.7
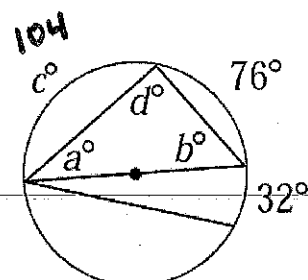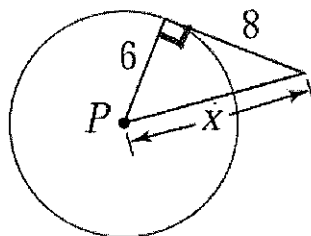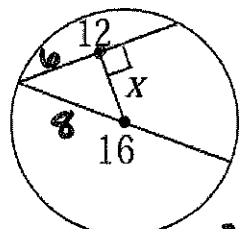
13) Two concentric circles have radii of 7 cm and 25 cm. Segment AB is a chord of the larger circle and is tangent to the second circle. Find the length of AB.

AB = __48 cm__
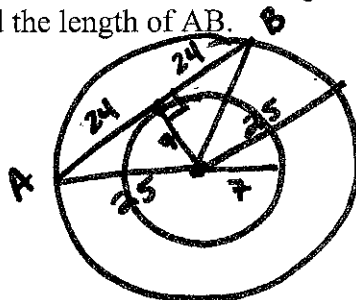
For #14-17: If a dart is thrown and hits the given target at random, find the probability of it hitting the shaded region.

14) P(Shaded Region) = __$\frac{1}{3}$ or 33%__
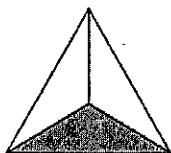
15) P(Shaded Region) = __$\frac{1}{4} = 25\%$__

$\frac{2}{8}$
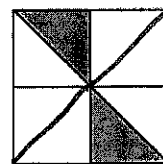
16) P(Shaded Region) = __$\frac{4-\pi}{4} = 27.3\%$__

4 un
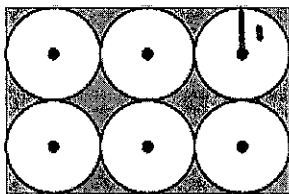
6 un

$24 - 6\pi(1)^2$

$\frac{24 - 6\pi}{24}$

$\frac{4-\pi}{4}$

17) P(White Ring) = __$\frac{5}{9} = 55.6\%$__

Center circle has a radius of 1cm.

2nd circle has a radius of 2 cm.

3rd circle has a radius of 3 cm.

$\pi R^2 - \pi r^2$

$9\pi - 4\pi = 5\pi$

$\frac{5\pi}{9\pi}$
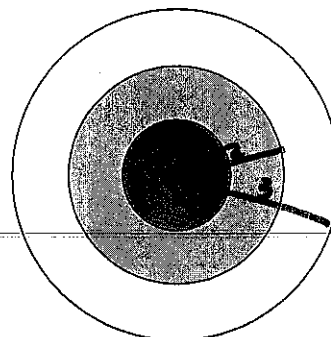
Chapter 8 – Exam Practice

For #1-3: Solve each proportion for given variable.

1) $x =$ __42__

$$\frac{4}{14} = \frac{12}{x}$$

$14 \cdot 12 = 4x$
$168 = 4x$
$42 = x$

2) $y =$ __7__

$$\frac{(y+5)}{7} = \frac{60}{35}$$

$35(y+5) = 60 \cdot 7$
$35y + 175 = 420$
$35y = 245$
$y = 7$

3) $w =$ __3π__

(Leave your answer in terms of π)

$$\frac{45}{360} = \frac{w}{24\pi}$$

$360w = 45 \cdot 24\pi$
$360w = 1080\pi$
$w = 3\pi$

For #4-5: For the following pairs of triangles, you must do the following:
  (a) Determine if the given triangles are similar (circle Yes or No).
  (b) If "Yes", state the postulate that proves they are similar.
  (c) If "Yes", write the similarity ratio.

4) a) Similar: (Yes) No

 b) Postulate: __AA ~__

 c) Similarity Ratio = __$\frac{2}{3}$__
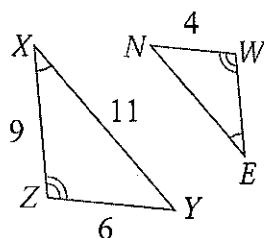
5) a) Similar: Yes (No)

 b) Postulate: _____

 c) Similarity Ratio = _____
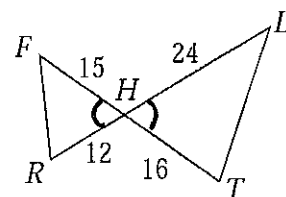
$\frac{12}{16} = \frac{3}{4}$

$\frac{15}{24} = \frac{5}{8}$

6) $\triangle OMG$ has its vertices at the following places:
O(4, 5), M(-5, -3), and G(4, -2)

a) Graph $\triangle OMG$

b) Graph and label the image of $\triangle OMG$ under a dilation with a scale factor of $\frac{1}{4}$.

c) Are $\triangle OMG$ and $\triangle O'M'G'$ similar? _____

d) If you answered yes to part (c), find the similarity ratio for the two objects. _____
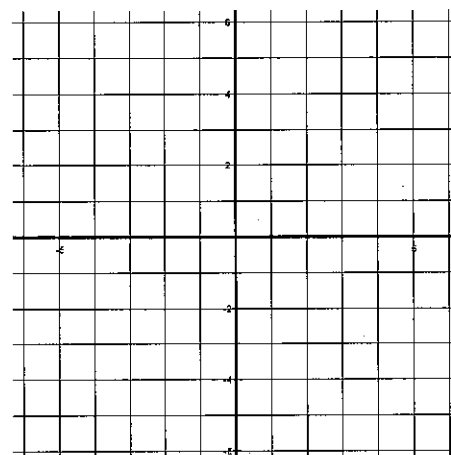
For #7-10: Find the missing value(s).

7) $x° =$ __30°__

$y =$ __4__

$\triangle CAT \sim \triangle DOG$
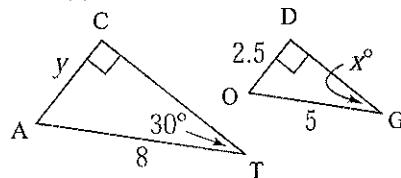
$\frac{5}{8} = \frac{2.5}{y}$ $y = 16$

8) $x =$ __4__

$\frac{5}{x} = \frac{10}{8}$

$10x = 40$

$x = 4$
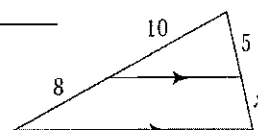
9) $x =$ ___18.7 un___
(round answer to a tenth)

$$\frac{7}{6} = \frac{x}{16}$$

$$6x = 112 \qquad x = 18.7$$
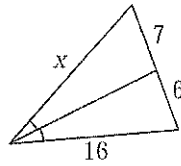
10) $x =$ ___9.3 un___
(round answer to a tenth)

$$\frac{3}{10} = \frac{4}{4+x}$$

$$40 = 3(4+x)$$

$$40 = 12 + 3x$$

$$28 = 3x$$

$$x = 9.3$$

11) Perimeter of NPQR = ___165 m___

Kite HGKL ~ Kite NPQR

$$\frac{17}{25.5} = \frac{38}{x} \qquad 17x = 969 \qquad x = 57$$

17 m, 38 m, 17 m, 38 m, 57, 57, 25.5 m, 25.5 m

12) The negative used to develop a picture is 3 inches long by 2 inches wide. If the negative is developed to create a similar poster whose width is 9 feet long, find the length in feet of the picture.

Length = ___13.5 ft___

2 in, 3 in, 9×12 = 108 in, x in, x in, 12 in

$$3x = 144$$
$$x = 48 \div 12$$
$$x = 4 ft$$

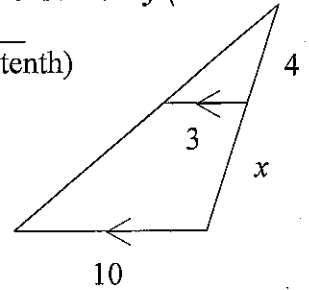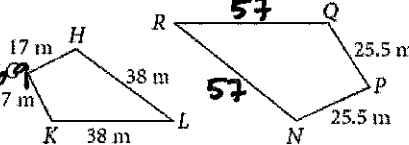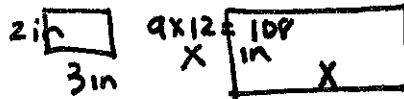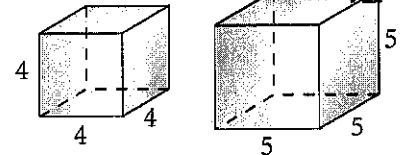$$\frac{2}{108} = \frac{3}{x} \qquad 2x = 324 \qquad x = \frac{162}{12} = 13.5$$

13) Use the two cubes to the right to answer the following questions.

a) Are the cubes similar? ___Yes___

b) What is the ratio of their surface areas?
$$\frac{4^2}{5^2} = \frac{16}{25}$$

c) What is the ratio of their volumes?
$$\frac{4^3}{5^3} = \frac{64}{125}$$

4, 4, 4, 5, 5, 5

14) The surface area of two similar pyramids are 49 in.^{2} and 121 in.^{2} Find the following ratios:

a) Similarity Ratio = $\frac{7}{11}$

b) Volume Ratio = $\frac{7^3}{11^3} = \frac{343}{1331}$

$$\frac{\sqrt{49}}{\sqrt{121}} = \frac{7}{11}$$

15) Two similar prisms have a volume ratio of 40:135. If the surface area of the larger prism is 342 cm^2, find the surface area of the smaller prism.

Surface Area = ___152___ cm^2

$$\frac{40}{135} = \frac{8}{27}$$

$$\frac{\sqrt[3]{8}}{\sqrt[3]{27}} = \frac{2}{3} \rightarrow \frac{2^2}{3^2} = \frac{4}{9} = \frac{x}{342}$$

16) A drawing of steam locomotive is made to the scale $\frac{1}{8}$ inch = 1 foot. The train in the drawing is $6\frac{3}{4}$ inches long. How long is the real train?

Length = ___54 ft___

$$\frac{\frac{1}{8}\,in}{1\,ft} = \frac{6.75\,in}{x} \qquad 8 \cdot 6.75 = \frac{1}{8}x \cdot 8$$

$$x = 54$$

17) If Madeline is 5 foot tall and casts a shadow that is 7 feet long, how tall is her friend Babar if his shadow is one foot shorter than Madeline's? (Round your answer to the nearest tenth of a foot)

Height = ___4.3 ft___

6 ft, x, 5 ft, 7 ft
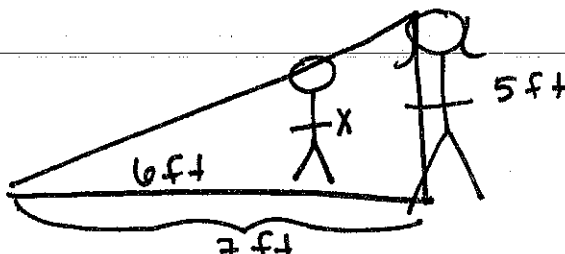
$$\frac{5}{x} = \frac{7}{6}$$

$$7x = 30$$

$$x = 4.3 ft$$

Chapter 9 – Exam Practice

For #1-6: Using the triangle to the right, write the following trigonometric ratios (fraction). Be sure to simplify your answers.

1) $\sin \angle P = \underline{\quad ^{12}/_{13} \quad}$

2) $\tan \angle G = \underline{\quad ^{1}/_{1} \quad}$

3) $\cos \angle P = \underline{\quad ^{5}/_{13} \quad}$

4) $\cos \angle E = \underline{\quad \frac{6\sqrt{2}}{12} = \frac{\sqrt{2}}{2} \quad}$

5) $\tan \angle P = \underline{\quad ^{12}/_{5} \quad}$

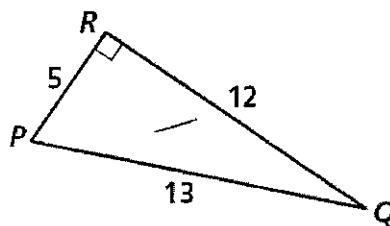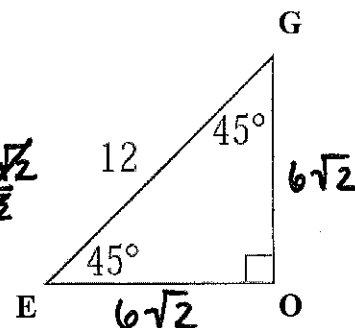6) $\sin \angle Q = \underline{\quad ^{5}/_{13} \quad}$

$\frac{\sqrt{2}}{\sqrt{2}} \cdot \frac{12}{\sqrt{2}} = \frac{x\sqrt{2}}{\sqrt{2}}$

$\frac{12\sqrt{2}}{2}$

$6\sqrt{2}$

For #7-9: Use your calculator. Round trigonometry ratios to <u>4 decimal places</u>. Round angle measures to the nearest <u>whole</u> degree.

7) $\tan 56° \approx \underline{\mathbf{1.4826}}$

8) $\cos^{-1}\left(\frac{2}{3}\right) \approx \underline{\mathbf{48°}}$

9) $\sin 60° \approx \underline{\mathbf{.8660}}$

For #10-18: Find the value of x. Round side lengths to the nearest <u>tenth</u>. Round angle measures to the nearest <u>whole</u> degree.

10) $x \approx \underline{\mathbf{54.8}}$

$\mathbf{57} \cdot \cos 16° = \dfrac{x}{57} \cdot \mathbf{57}$

11) $x \approx \underline{\mathbf{9.6}}$

$\sin 70° = \dfrac{9}{x}$

12) $x° \approx \underline{\mathbf{26°}}$

$\tan x° = \dfrac{12}{25}$

$\tan^{-1}\left(\dfrac{12}{25}\right)$

13) $x \approx \underline{\mathbf{29°}}$

$\sin x = \dfrac{11}{23}$

$\sin^{-1}\left(\dfrac{11}{23}\right)$

14) $x \approx \underline{\mathbf{5.6}}$

$\tan 48 = \dfrac{x}{5}$

15) $x \approx \underline{\mathbf{49°}}$

$\cos x = \dfrac{6.5}{10}$

$\cos^{-1}\left(\dfrac{6.5}{10}\right)$

16) $x \approx$ __7.8__

$$\frac{\cos 40}{1} = \frac{6}{x}$$

17) $x \approx$ __39°__

$\tan x = \frac{4}{5}$

$\tan^{-1}\left(\frac{4}{5}\right)$

18) $x \approx$ __6.6__

$\sin 70 = \frac{x}{7}$
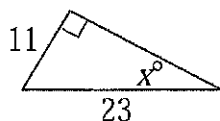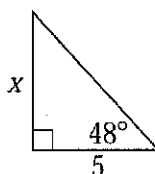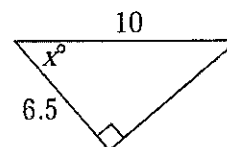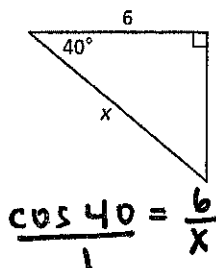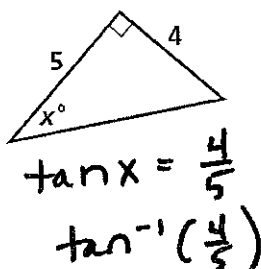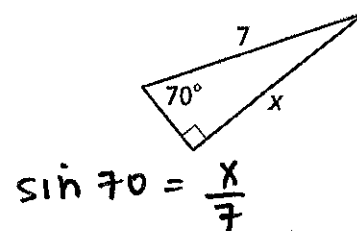
19) Area $\approx$ __357.6 in²__

(Round answer to a tenth)
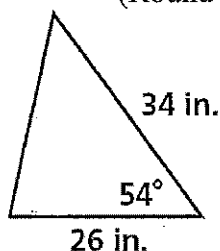
$\frac{1}{2}(34)(26)\sin 54$

20) Area $\approx$ __1968 cm²__

(Round answer to the nearest whole cm²)

A Regular decagon that has a side length of 16 cm.

$\tan 18 = \frac{8}{x}$
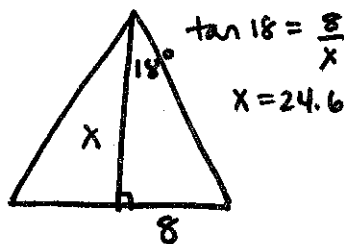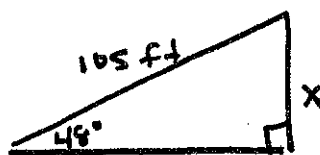
$x = 24.6$

$A = \frac{1}{2} a P$

$A = \frac{1}{2}(24.6)(160)$

21) Irma is flying a kite. She lets out 105 feet of string and anchors it to the ground. The angle of elevation to the kite is 48°. Find the kite's height above the ground. (Round your answer to the nearest whole foot)

Height = __78 ft__

$\sin 48 = \frac{x}{105}$

22) A plane flying a 10,000 feet spots a hot-air balloon at an altitude of 9000 feet and a 30° angle of depression. What is the ground distance between these two objects? (Round your answer to the nearest whole foot)

Distance = __1732 ft__

$\tan 30 = \frac{1000}{x}$

10,000   9,000
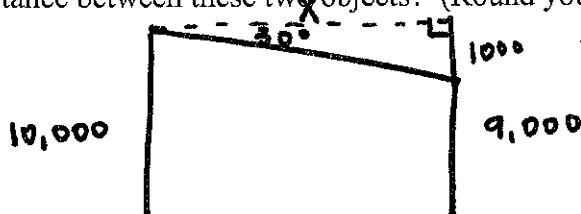
23) What is the *exact* answer for the Sin 60°. In other words, what is the fraction answer for this ratio? Explain your answer. Do not plug the problem into your calculator and give me the decimal answer.

Sin 60° = $\frac{x\sqrt{3}}{2x}$ = $\boxed{\frac{\sqrt{3}}{2}}$

_____

_____

Chapter 10 – Exam Practice

$$576\sqrt{2} + 216 \text{ in}^2$$

For #1-6: Find the surface area and volume of the following objects. Look at each problem for special instructions on rounding.

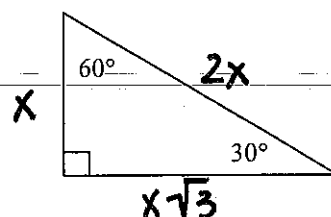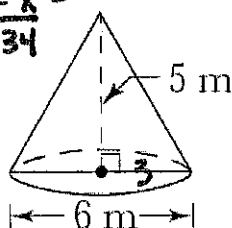1) Surface Area = $9\pi + 3\pi\sqrt{34}$ m^2
(Leave answer exact and in terms of π)

2) Surface Area = ~~(scribbled out)~~
(Leave your answer exact)

Volume = 15π m^3
(Leave answer exact and in terms of π)

Volume = $864\sqrt{2}$ in^3
(Leave your answer exact)

$3^2 + 5^2 = x^2$
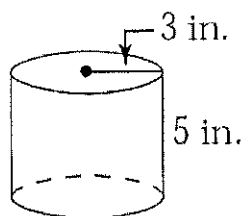$34 = x^2$
$x = \sqrt{34}$

— 5 m

←— 6 m —→

$\boxed{S.A}$ $\pi r^2 + \pi r \ell$
$\pi(3)^2 + \pi(3)(\sqrt{34})$
$9\pi + 3\pi\sqrt{34}$

$\boxed{V}$ $\frac{1}{3}\pi r^2 h$
$\frac{1}{3}\pi(3)^2(5)$
$\frac{1}{3}\pi(9)(5)$
15π

$\boxed{S.A}$ $(9\sqrt{2} + 15\sqrt{2} + 12\sqrt{2})16$
$= 36\sqrt{2}(16)$
$= \boxed{576\sqrt{2}}$

$\boxed{B}$ $= \frac{1}{2} 9\sqrt{2} \cdot 12\sqrt{2} \cdot 2$
$= \underline{\hspace{2cm}}$ (scribbled)
$\boxed{216\sqrt{2}} + \underline{\hspace{1cm}}\sqrt{2}$
$324\sqrt{2}$

$\boxed{V}$ $\frac{1}{2}bh \cdot h$
$\frac{1}{2} 9\sqrt{2} \cdot 12\sqrt{2} \cdot (16)$
$= 864\sqrt{2}$

$9\sqrt{2}$ $15\sqrt{2}$ 16 in.
$12\sqrt{2}$
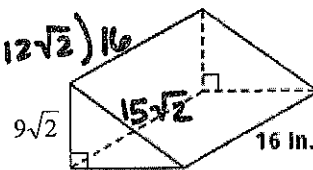
$(9\sqrt{2})^2 + (12\sqrt{2})^2 = x^2$
$162 + 288 = x^2$
$450 = x^2$
$\sqrt{450} = x$
$\sqrt{225}\sqrt{2} = x$
$15\sqrt{2} = x$

3) Surface Area = 48π in^2
(Leave answer in terms of π)

4) Surface Area = 360 in^2

Volume = 45π in^3
(Leave answer in terms of π)

Volume = 400 in^3

— 3 in.
5 in.

$\boxed{S.A}$ $2\pi r^2 + Ch$
$2\pi(3)^2 + 6\pi(5)$
$18\pi + 30\pi$
48π

$\boxed{V}$ $\pi r^2 \cdot h$
$\pi(3)^2 \cdot 5$
$9\pi \cdot 5$
45π

$\boxed{S.A}$ $4 \cdot \frac{1}{2}bh + s^2$
$2(10)(13) + 10^2$
$260 + 100$
360

$\boxed{V}$ $\frac{1}{3}Bh$
$\frac{1}{3} \cdot 10^2 \cdot (12)$
$= 400$

13 In.
12
10 In.
10 In.
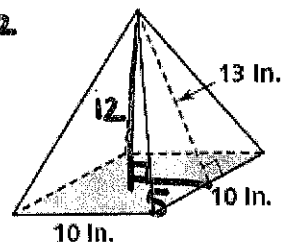
$240 + 48\sqrt{3}$ cm^2

5) Surface Area = ~~$240 + 48\sqrt{3}$ cm^2~~
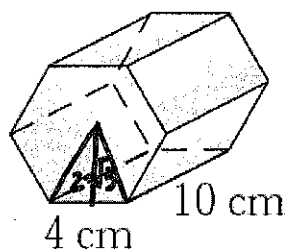(Leave your answer exact)

Volume = $240\sqrt{3}$ cm^3
(Leave your answer exact)

6) Surface Area = $84 + 21\pi$ ft^2
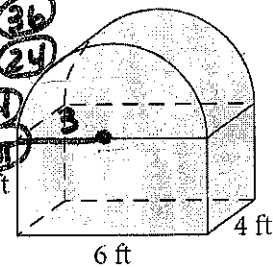(Leave your answer exact)

Volume = $72 + 18\pi$ ft^3
(Leave your answer exact)

$\boxed{S.A}$ $6(b \cdot h) + \left(\frac{1}{2} a P\right) 2$
$= 6(10 \cdot 4) + \frac{1}{2} 2\sqrt{3}(24)$
$= 240 + 24\sqrt{3} \cdot 2$
$= 240 + 48\sqrt{3}$

$\boxed{V} = \frac{1}{2} a P (h)$
$= \frac{1}{2}(2\sqrt{3})(24)(10)$
$= 240\sqrt{3}$

10 cm
4 cm
2√3

$\boxed{S.A}$ FB = 3×6×2 = �36
LR = 4×3×2 = ㉔
B = 6×4 = ㉔
Circle = $\pi(3)^2$ = ⑨π
Rect. = $\frac{1}{2}\pi(6) \cdot 4$
= ⑫π
= $\boxed{84 + 21\pi}$

$\boxed{V}$ Rect. prism = 6×4×3 = ㉒
$\frac{1}{2}$ cylinder = $\frac{1}{2}\pi r^2(h)$
= $\frac{1}{2}\pi(3)^2(4)$
= ⑱π

3 ft
4 ft
6 ft

7) A sphere has a diameter of 10 cm. Find the surface area and volume of the sphere. Leave your answer in terms of π.

Surface Area = 100π cm^2

Volume = $166\frac{2}{3}\pi$ cm^3

$\boxed{S.A} = 4\pi r^2$
$= 4\pi(5)^2$
$= 100\pi$

$\boxed{V} = \frac{4}{3}\pi r^3$
$= \frac{4}{3}\pi(5)^3$
$= 166\frac{2}{3}\pi$

8) A straw has a base opening with a radius of 8 mm and is 100 mm long. How much plastic is required to make this straw? (Round your answer to the nearest tenth)

Plastic = $5,026.5$ mm^2

16π
100
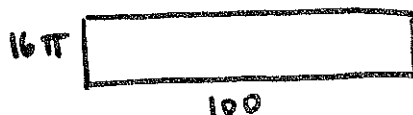
$16\pi \cdot 100$
1600π

9) A cone has a volume of 80π cm^3. If the cone's height is 15 cm, what is the base circle's radius?

Radius = 4 cm

$V = \frac{1}{3}\pi r^2 h$
$80\pi = \frac{1}{3}\pi r^2 (15)$

$80\pi = 5\pi r^2$
$16 = r^2$
$r = 4$

10) A cylindrical water fountain is designed out of cement and in the form of a cylinder with a smaller cylinder cut into the center. The outer cylinder has a diameter of 8 meters and a height of 1 meter. The inner cylindrical hole has a diameter of 7 meters and a depth of $\frac{3}{4}$ meters. If each cubic meter of cement costs \$31, how much does the entire fountain cost to make?

Cost = $\$663.46$

8 m
7 m
$\frac{3}{4}$ m
1 m
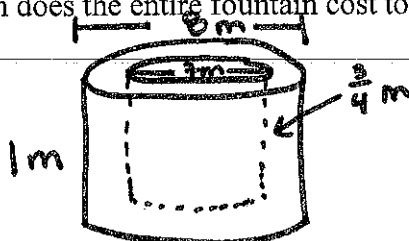
$V = \pi R^2 H - \pi r^2 h$
$= \pi(4)^2(1) - \pi(3.5)^2\left(\frac{3}{4}\right)$
$= 50.265 - 28.863$
$= 21.402 \times \$31$