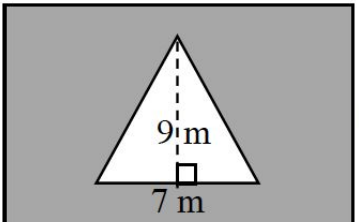
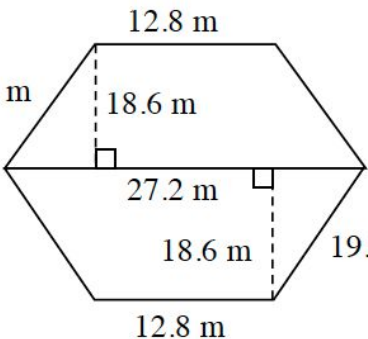
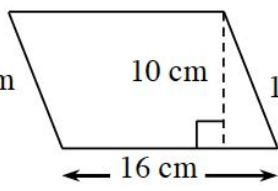


Name: _____

Period: _____

MATH 2 - (Semester 1 Final STUDY GUIDE)

Practice Problem Set for Chapters 2, 3 & 4.2, 6

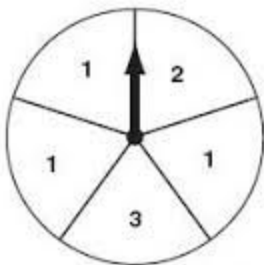
<p>1)</p> 	<p>1) Find the Area of the shaded region.</p> <p>Area= _____</p>	<p>1) Find the perimeter of the triangle.</p> <p>Perimeter: _____</p>
<p>2)</p> 	<p>2) Find the Area.</p> <p>Area= _____</p>	<p>2) Find the perimeter.</p> <p>Perimeter: _____</p>
<p>3)</p> 	<p>3) Find the Area.</p> <p>Area= _____</p>	<p>3) Find the perimeter.</p> <p>Perimeter: _____</p>

4) 87% of the population of California is right-handed. 17% of the population wears glasses or contact lenses. Create an area model to describe this situation.

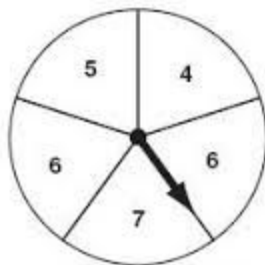
a) What is the probability that someone who is right handed also wears glasses or contacts?

b) What is the probability that someone isn't right handed and doesn't wear glasses?

5) You create a two digit number by spinning spinner A to get the tens digit and spinning spinner B to get the ones digit. The spinners are divided into equal parts. Create either an area model or a tree diagram to model the probability of this situation.



Spinner A (tens digit)

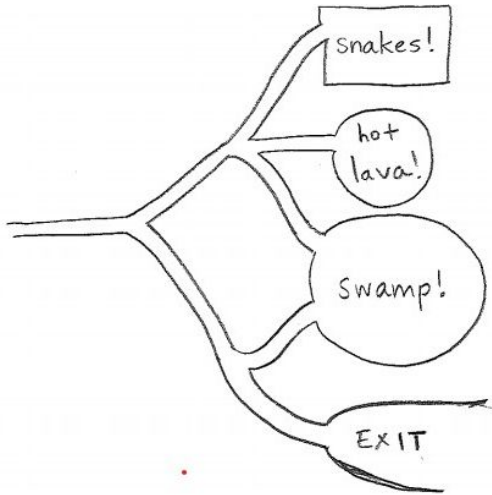


Spinner B (ones digit)

What is the probability of getting an even number? Show all work.

What is the probability of getting an odd number? Show all work.

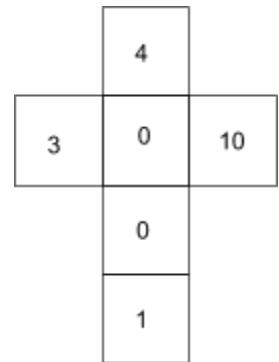
6) Alma is stuck in a maze on the worst reality TV show ever!



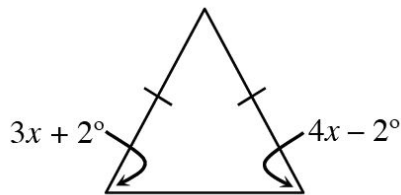
a) What is the probability she ends up in the swamp?

b) What is the probability that she makes it safely to the exit?

7) On the six-sided dice at right, you win the dollar amount of money you spin. Calculate the expected value of this game.



8)

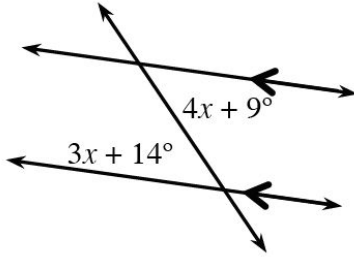


8) Justification: _____

Equation: _____

$x =$ _____

9)

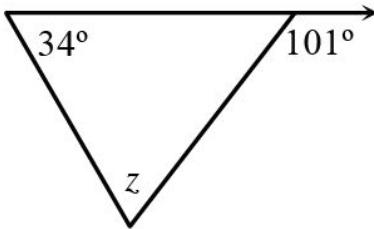


9) Angle Relationship: _____

Equation: _____

$x =$ _____

10)

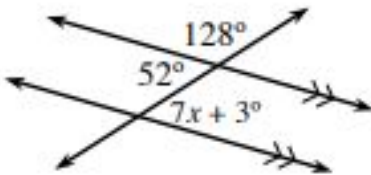


10) Justification: _____

Equation: _____

$z =$ _____

11)

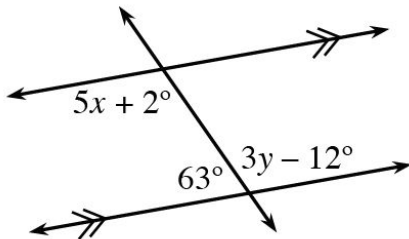


11) Angle Relationship: _____

Equation: _____

$x =$ _____

12)

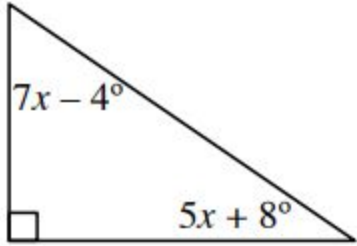
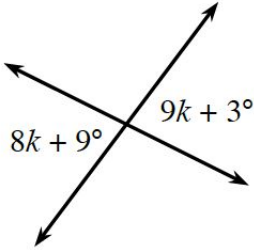
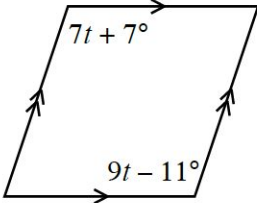


12) Angle Relationship: _____

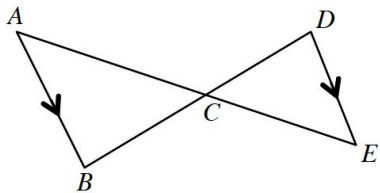
Equation: _____

$y =$ _____

$x =$ _____

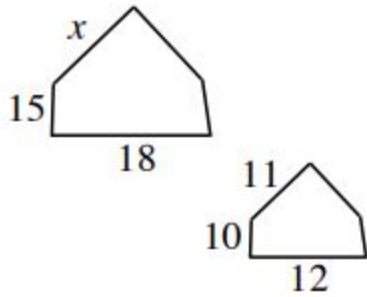
<p>13)</p> 	<p>13) Justification: _____</p> <p>Equation: _____</p> <p style="text-align: right;">x = _____</p>
<p>14)</p> 	<p>14) Angle Relationship: _____</p> <p>Equation: _____</p> <p style="text-align: right;">k = _____</p>
<p>15)</p> 	<p>15) Angle Relationship: _____</p> <p>Equation: _____</p> <p style="text-align: right;">t = _____</p>

16) Use the similar triangles below. If $AB = 14$, $AC = 16$, and $DE = 12$, calculate CE .



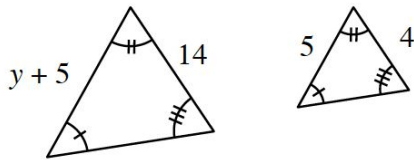
$CE =$ _____

17) In the diagram below, the figures are similar. Solve for x .



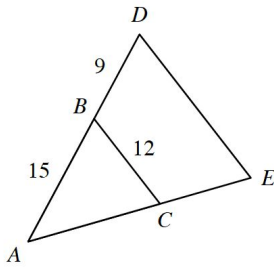
$x =$ _____

18) Examine the triangles below. Solve for y .



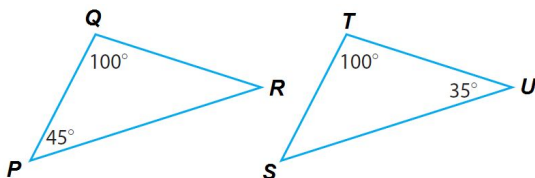
$y =$ _____

19). In the diagram below, $\triangle ABC \sim \triangle ADE$. What is DE ?

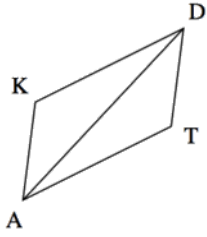


$DE =$ _____

20) Determine if the triangles below are similar. If so, explain how you know and write a similarity statement.

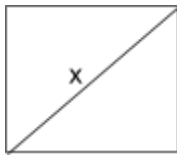


21) In the figure below, if $\overline{KD} = \overline{AT}$ and $\overline{AK} = \overline{TD}$, is it true that $\angle K \cong \angle T$? Use a flowchart to explain your answer.

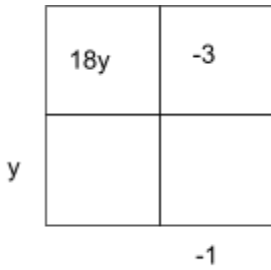


23) The perimeter of a triangle is 39 inches. The second side is 9 times as long as the first side. The third side is 1 inch longer than the second side. What is the length of each side? Show your work.

24) The area of the square below is 25 cm^2 . Determine the side lengths and the diagonal (x) of square.



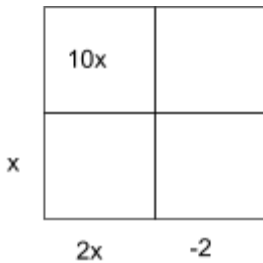
20)



Area as a product: _____

Area as a sum: _____

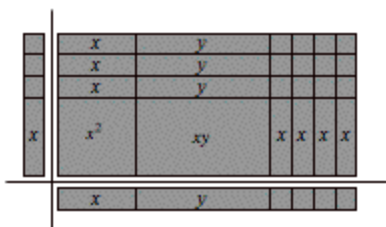
21)



Area as a product: _____

Area as a sum: _____

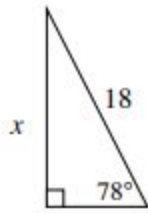
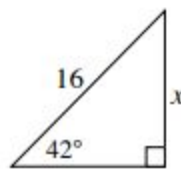
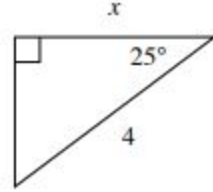
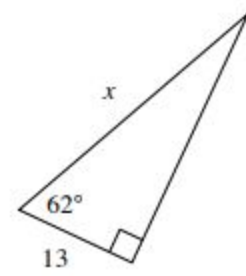
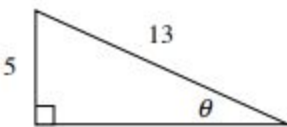
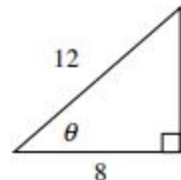
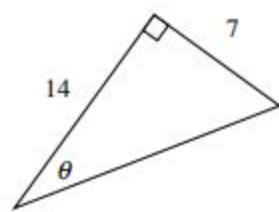
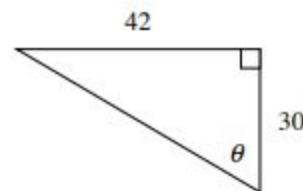

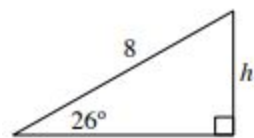
22)



Area as a product: _____

Area as a sum: _____

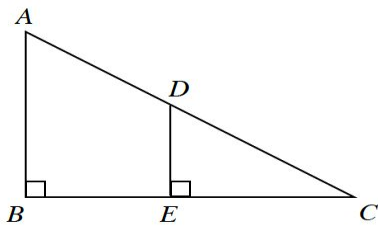
23) Set up an equation and find the missing side length or variable.

24) Calculate the value or rewrite the expressions below.

a) $(\sqrt{3})^4$	b) $9^{7/2}$	c) $\sqrt[3]{2^5}$
d) $(\sqrt{5})_6$	e) $49^{5/2}$	f) $\sqrt[4]{81^3}$
g) $64^{2/3}$	h) $25^{5/2}$	i) $81^{7/4}$

25) In the triangle below, $AD = 10$, $AC=45$, $AB = x + 20$, and $DE = x$. Solve for x .



26) Assume that $\angle E \cong \angle G$ in the diagram at right. Add an auxiliary line so that you can use two congruent triangles to prove that the triangle must be isosceles. Complete a flow chart or proof below.

