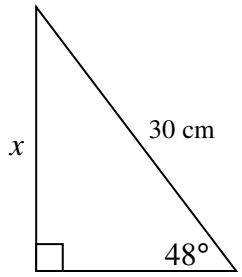
MBF 3C1 Name: _____

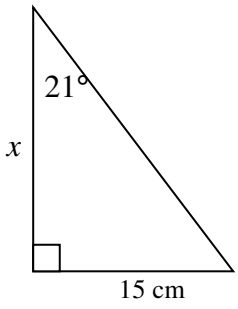
Extra Practice
Final Exam Review (Units 5 – 7)

1. Find the missing angle or side specified for each of the following.

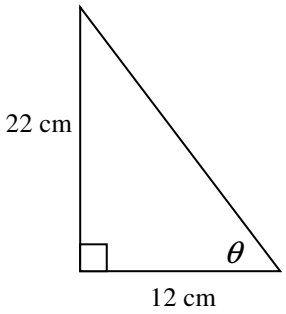
a. Solve for *x*.



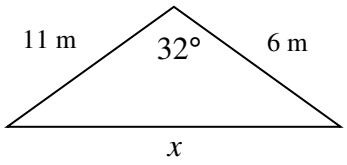
b. Solve for *x*.



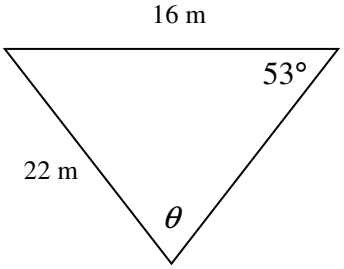
c. Solve for θ.



d. Solve for *x*.



e. Solve for θ.

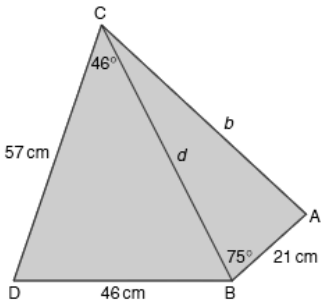


2. The angle of depression from the top of castle to a boat is 25°. If the distance from the top of the castle to the boat is determined to be 100 m, how high is the castle?

3. Two angles of a triangle are 30° and 65° and the longest side is 34 cm. How long is the shortest side?

4. Find the measure of the smallest angle in a triangle with sides 4 m, 7 m, and 8 m.

5. Find each missing side length and angle measure in the diagram shown.



6. Given the description of an object, complete each type of drawing. Use an appropriate scale and label dimensions.

	a. Rectangular Prism l = 50 cm w = 40 cm h = 25 cm	b. Cylinder d = 15 cm h = 20 cm	c. Triangular Prism b = 30 cm h = 10 cm (for Δ base) h = 5 cm (for prism)
ISOMETRIC DRAWING			
ORTHOGRAPHIC DRAWING			
NET			

7. Convert the dimensions for the shape from #6 a) to inches.

8. A manufacturer sells raisins in a cylindrical package with volume 750 cm^3 and 14cm diameter. Design a rectangular prism box that holds the same amount and has the same height. Explain any assumptions and choices you make.

9. Nathan is a journalist for the school newspaper. He wants to conduct a survey to predict the results of the upcoming student council election. In each case, describe the type of sample (simple random, stratified, systematic, convenience, cluster, voluntary) and any potential bias (response bias, non response bias, measurement bias, sampling bias).
    a. He surveys the students in his homeroom.

Type of Sample:

Bias:

    b. He surveys 10 students chosen randomly from each grade.

Type of Sample:

Bias:

c. He walks down the halls during classtime and asks every 2nd person he passes.

Type of Sample:

Bias:

d. He puts up a notice on a bulletin board and asks for a response to be emailed to him.

Type of Sample:

Bias:

10. What is the population for Nathan's survey in question 9?

11. Explain the difference between categorical, continuous and discrete data. Provide an example for each.

12. State the different types of distribution that data can have and sketch an example of each.

13. You have a die, a spinner divided into 4 parts (blue, yellow, red, green) and a coin
    a. Draw a tree diagram to illustrate all the possible outcomes if you roll the die, spin the spinner and flip the coin.

    b. What is the probability of choosing each of the following?
        i. heads, an even number and blue
        ii. an odd number and either yellow or red
        iii. tails and green

    c. Discuss how the coin, die and spinner above can simulate the type of outfit you can choose to wear to school. Discuss the process you would use and the number of trials.

14. Complete the following for the data at right,

Scores in a golf tournament						
281	272	269	278	273	277	282
283	292	269	277	278	280	275
284	288	274	295	296	283	300
289	296	295	294	301	306	299

a. organize the data in a frequency table

INTERVAL	TALLY	FREQUENCY

b. graph the data in a histogram. Give graph a title, label axes

c. identify the type of distribution that data models and explain your choice

order the numbers:

d. calculate the mean

e. calculate the median

f. calculate the mode

g. Which is the best measure of central tendency? Explain you reasoning.

h. calculate the range

i. calculate the standard deviation

j. What do the measures of spread tell you about the data. Explain your answer.

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Extra Practice
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WHAT YOU NEED TO KNOW:

	FINAL EXAM	FINAL CULMINATING
DATE		
TIME	60 minutes	60 minutes
VALUE	10%	5%
TOTAL MARKS	58	36
PAGES, QUESTIONS	6, 8	4, 3

FORMULAS:

PYTHAGOREAN THEOREM	$c^2 = a^2 + b^2$		
PRIMARY TRIGONOMETRIC RATIOS	$\tan\theta = \frac{opposite}{adjacent}$	$\sin\theta = \frac{opposite}{hypotenuse}$	$\cos\theta = \frac{adjacent}{hypotenuse}$
TRIGONOMETRY FORMULAS	Sine Law $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$	Cosine Law $c^2 = a^2 + b^2 - 2ab\cos C$ $\cos C = \frac{a^2 + b^2 - c^2}{2ab}$	

DEFINITIONS:

Calculate – compute the number that answers the question
Compare – tell what is the same and what is different
Construct – build or make a model
Create – make your own example
Describe – draw, model or write about what something is to create a mental picture for the reader
Estimate – Make a reasonable guess about a quantity of an object based on your knowledge of the physical characteristics of the object and its environment
Evaluate – to find a number answer
Explain – use words and symbols to make your solutions clear and understandable
Give Reasons for Your Answer – explain your reasoning in your own words
Justify – give reasons and evidence to show your answer is correct or proper
List – write down or identify in point form
Measure – use an object or tool to describe the physical characteristics of an object
Model – show an idea or process using objects and/or pictures
Predict – work out and say what you think will happen based on what you know
Relate – show and explain a connection between ideas, objects, drawings, number and events
Represent – communicate ideas and information in different ways to show understanding (eg, draw a picture or show a calculation)
Simplify – reduce the complexity while maintaining equivalency
Solve – make a plan and carry out the plan to develop a solution to a problem
Show Your Work – record all calculations. Include all the steps you went through to get your answer. You may want to use words, numbers, graphs, diagrams, symbols, and/or charts

Length	Mass	Volume
		15 mL = 1 tbsp
30.48 cm = 1 foot	28.35 g = 1 ounce	29.574 mL = 1 fluid ounce
2.54 cm = 1 inch	0.454 kg = 1 pound	0.473 L = 1 pint
1.6 km = 1 mile	0.907 t = 1 ton (US)	3.785 L = 1 gallon
	454 g = 1 pound	1L = 4 cups
10 mm = 1 cm	1000 g = 1 kg	1000 mL = 1 L
100 cm = 1 m	1000 kg = 1 t	
1000 m = 1 km		
		16 tbsp = 1cup
12 in = 1 ft	16oz = 1lb	16 fl oz = 1 pint
3 ft = 1 yard	2000 lb = 1ton	2 pints = 1 quart
1760 yd = 1 mile		8 pints = 1 gallon