Ch.4 Factoring + Trig Test Version 3

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Date: 12/6/2020 Pd. 1

Read all directions carefully.
Watch out for simple, careless errors.
Make sure all figures are labeled appropriately.
Please indicate all answers clearly so they are easy to locate.
Show ALL work you have done to receive full credit for your answer.

1) (5 pts.) Draw a rectangle using algebra tiles for the expression $2x^2 + 7x + 5$. Sketch your rectangle and write the area as a sum and as a product.

2) (3 pts.) **Multiple Choice:** The quadratic expression $6x^2 + 6x - 12$ has several possible sets of factors. Which set of factors below is <u>not</u> a possible answer? Explain how you know.

a. $6(x-1)(x+2)$

b. $(6x-6)(x+2)$

c. $(x-6)(6x+2)$

d. $(3x-3)(2x+4)$

A, as 6x*6x would be 32x^2, not 6X^2

3) (8 pts) Factor the following quadratics if possible. If a quadratic cannot be factored, explain why not.

a. $2x^2 - 11x + 12$

(X-4)(2X-3)

b. $y^2 + 7y + 7$

Impossible
7 is a prime number, meaning it can only be divided by 1 or 7.
If we use 1 and 7, then it should be 8Y, not 7Y.

c. $5m^2 - 14m + 8$

(M+2)(5M+4)

d. $15p^2 - 3p$

Impossible

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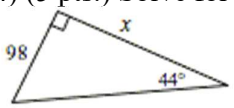
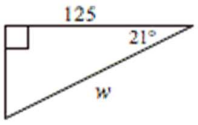
4) (5 pts.) Solve for the missing side length. Show your work. Round lengths to the nearest tenth.



Tan 44=about 0.97
98/about 0.97=
101.5=X

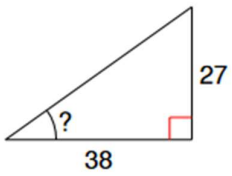
5) (5 pts.) Use trigonometric ratios to solve for the variable. Show your work. Round lengths to the nearest tenth.



Tan 21=0.383864035
125*0.383864035=about 47.983
125^2+about 48^2=W^2
15625+about 2302.4=about 17927.4
SR 17927.4=about 133.9

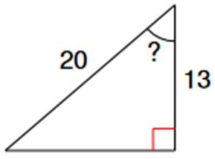
W=about 133.9

6) (3 pts.) Solve for the missing angle. Show your work.



Tan about 0.7105=35.39479584=?

7) (3 pts.) Solve for the missing angle. Show your work.



13/20=0.65
Cos 0.65=49.45839813=?

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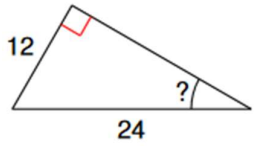
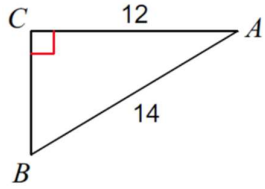
8) (3 pts.) Solve for the missing angle. Show your work.



12/14=0.5
0.5=Sin 30
?+30

9.) (6 pts.) Solve the triangle for all missing side lengths and angle measures. Show your work to receive full credit.

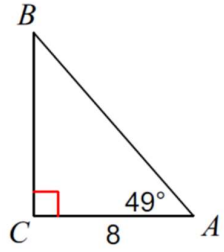


$\angle A =$ about 31.003 Tan (about 7.21/12)=about 31.003

$\angle B =$ about 58.997 180-90-about 31.003=about 58.997

$a =$ about 7.21 14^2-12^2=A^2
196-144=A^2
52=A^2
A=about 7.21

10) (6 pts) Solve the triangle for all missing side lengths and angle measures. Show your work to receive full credit.



$\angle B =$ 41 180-90-49=41

$a =$ about 9.2 Tan 49=about 1.15 8*(about 1.15)=about 9.2

$c =$ about 12.19 Cos 49=about 0.66 8/about 0.66=about 12.19

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Bonus) (4 pts) Factor each of the expressions below, if possible. Show your work.

a. $169x^2 - 289$

c. $16x^2 - 8x + 1$

b. $x^2 + 10x + 25$

d. $x^2 - \frac{1}{4}$