

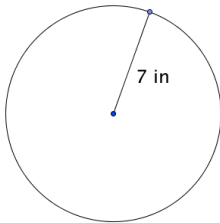
What you need to know for Honors Math 3

1. Solving Equations

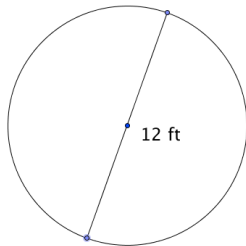
a. Solve. $3x + 4(x - 3) = 6x - 5$

2. Radius/Diameter/Area of Circle/Circumference of a Circle

- a. How many degrees are in a circle?
 b. What is the radius/diameter of the circle below?
 c. Find the area of the circle.

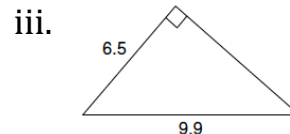
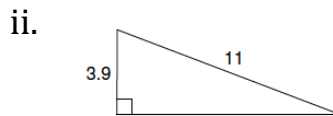
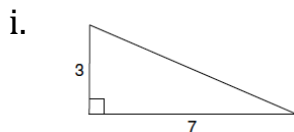


- d. Find the circumference of the circle.



3. Pythagorean Theorem

- a. Find the missing side of the triangle.

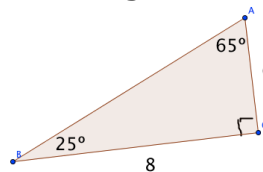


4. Trig Ratios

- a. What are the ratios for sine, cosine, and tangent in a right triangle?

- b. For the triangle at the right, find:

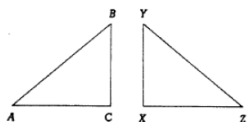
- i. $\sin 25^\circ$
 ii. $\cos 65^\circ$
 iii. $\tan 25^\circ$



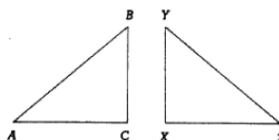
5. Triangle Congruence

- a. Give the theorem that proves each set of triangles congruent.

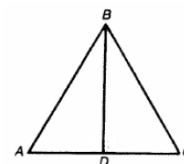
i. $\angle B \cong \angle Y$
 $\angle A \cong \angle Z$
 $\overline{BC} \cong \overline{YX}$



ii. $\overline{ZX} \cong \overline{AC}$
 $\overline{XV} \cong \overline{CB}$
 $\angle X \cong \angle C$



iii. $\overline{AB} \cong \overline{BC}$,
 \overline{BD} bisects $\angle ABC$.



6. Rationalizing the Denominator

- a. Get the radical out of the denominator.

$$\frac{4}{\sqrt{5}}$$

7. Multiplying Polynomials

- a. Simplify. $(2x - 3)(x + 5)$
b. Simplify. $(3x - 2)(x^2 - 4x + 3)$

8. Factoring

- a. Factor. $x^2 - 4$
b. Factor. $x^2 + 4x - 32$
c. Factor. $3x^2 + x - 4$

9. Adding/Subtracting/Multiplying/Dividing Fractions (by hand)

- a. $\frac{3}{4} + \frac{2}{3}$
b. $\frac{3}{4} - \frac{2}{3}$
c. $\frac{1}{2} * \frac{3}{5}$
d. $\frac{\frac{1}{2}}{\frac{3}{7}}$
e. $\frac{\frac{1}{2} + 2}{5 - \frac{2}{3}}$

10. Function Notation

- a. If $f(x) = 3x^2 - 4x + 8$, find $f(-3)$.

11. Solving Quadratics by Factoring

- a. Solve. $y = (3x - 2)(x + 1)$
b. Find the roots of $f(x) = 2x^2 + 7x + 3$

12. Quadratic Formula

- a. Find the zeros using the quadratic formula. $y = 3x^2 + 2x - 1$

13. Simplifying Square Roots

- a. Simplify. $\sqrt{72}$
b. Simplify. $\sqrt{200}$

14. Long Division

- a. Use long division to divide 428 by 5.

15. Systems of Equations

- a. Solve the system using any method.

$$3x + 2y = 16$$

$$5x - 4y = -10$$

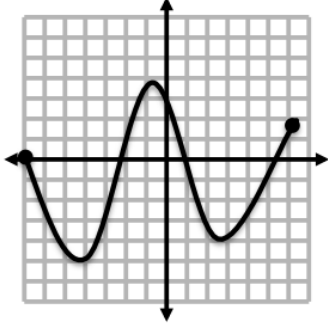
b. Solve the system by graphing.

$$y = 2x + 2$$

$$2x + 3y = 14$$

16. Graph Characteristics

a. Find the domain, range, intervals of increasing and decreasing for the following graph.



17. Logarithms and Exponents

a. Put $x = \log_2 8$ into exponent form

b. Put $4^x = 18$ in logarithmic form.