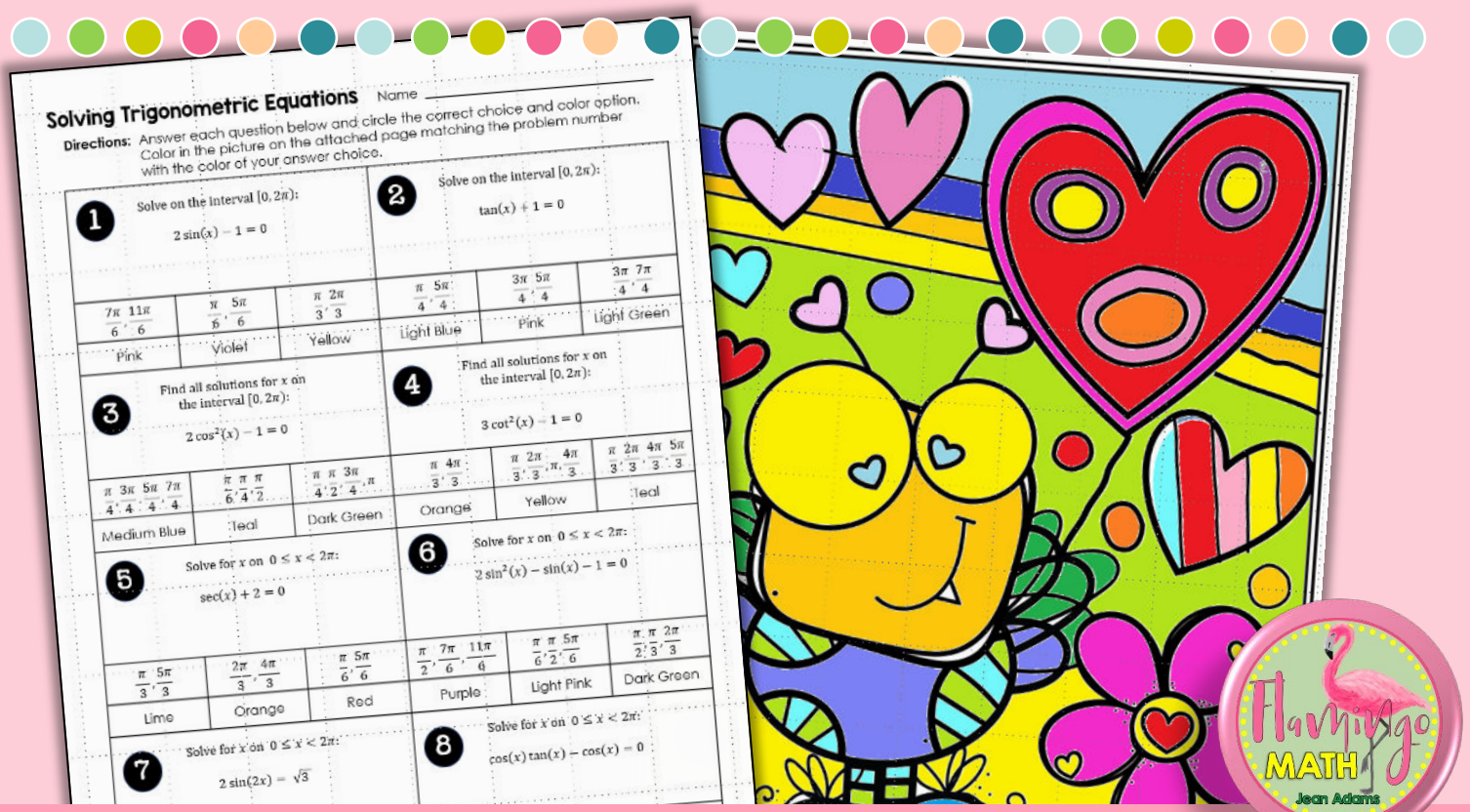
Precalculus

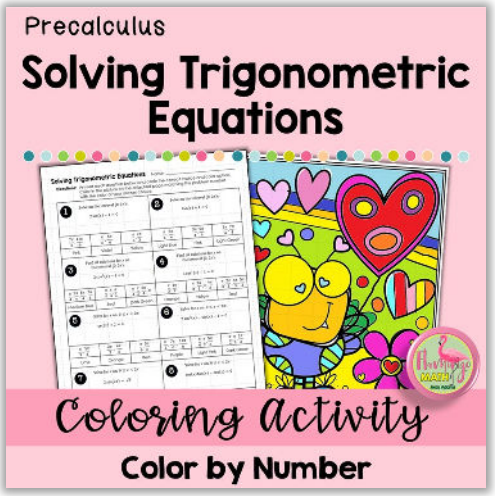
Solving Trigonometric Equations



Coloring Activity

Color by Number

Solving Trigonometric Equations
Color By Number



KEY CONCEPTS/TOPICS:
★ Solve trigonometric equations for specified domains
★ Solve trigonometric equations for general solutions

Standards:

BEST: MAFS.912.A-SSE.2.3; MAFS.912.A-SSE.1.2; MAFS.912.F-TF.2.7
CCSS: HAS-SSE.A.2, HAS-SSE.B.3, HSF-TF.B.7
TEKS: TEKS.MA.9-12.P.2.I

GENERAL DIRECTIONS:

Students will work sixteen questions related to Unit 5 Learning Objectives for Precalculus, Solving Trigonometric Equations then choose the correct answer with an indicated color option to complete the Coloring Page.

Product Overview

Solving Trigonometric Equations
Color By Number

This engaging Color by Number Activity can be used after Unit 5 of Precalculus. Students are given sixteen questions to review topics from Solving Trigonometric Equations in Unit 5. Students are provided an individual worksheet to record their work for accountability.

Students will have a page with questions to record work and answer choices, plus a Valentine-themed page in black and white to color, based on their answer choices.

Teacher Directions:
1. Copy pages 3-4 as a two-sided worksheet.
2. Copy page 5 for your student to color as they complete the worksheet problems 1-16.
3. Copy pages 6-7 as a two-sided worksheet if you want students to show work.

Directions for students:
Answer each question 1-16 related to integration and the Fundamental Theorem of Calculus, Circle the correct choice and color option. Color in the picture on the attached page matching the problem number with the color of your answer choice.

FTC-Integration Color by Number Activity

Solving Trigonometric Equations

Name:

Directions: Answer each question below and circle the correct choice and color option. Color in the picture on the attached page matching the problem number with the color of your answer choice.

1 Solve on the interval $[0, 2\pi)$:

$$2\sin(x) - 1 = 0$$

$\frac{7\pi}{6}, \frac{11\pi}{6}$	$\frac{\pi}{6}, \frac{5\pi}{6}$	$\frac{\pi}{3}, \frac{2\pi}{3}$
Pink	Violet	Yellow

2 Solve on the interval $[0, 2\pi)$:

$$\tan(x) + 1 = 0$$

$\frac{\pi}{4}, \frac{5\pi}{4}$	$\frac{3\pi}{4}, \frac{5\pi}{4}$	$\frac{3\pi}{4}, \frac{7\pi}{4}$
Light Blue	Pink	Light Green

3 Find all solutions for x on the interval $[0, 2\pi)$:

$$2\cos^2(x) - 1 = 0$$

$\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$	$\frac{\pi}{6}, \frac{\pi}{4}, \frac{\pi}{2}$	$\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$
Medium Blue	Teal	Dark Green

4 Find all solutions for x on the interval $[0, 2\pi)$:

$$3\cot^2(x) - 1 = 0$$

$\frac{\pi}{6}, \frac{4\pi}{3}$	$\frac{\pi}{3}, \frac{2\pi}{3}, \pi, \frac{4\pi}{3}$	$\frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$
Orange	Yellow	Teal

5 Solve for x on $0 \le x < 2\pi$:

$$\sec(x) + 2 = 0$$

$\frac{\pi}{3}, \frac{5\pi}{3}$	$\frac{2\pi}{3}, \frac{4\pi}{3}$	$\frac{\pi}{6}, \frac{5\pi}{6}$
Lime	Orange	Red

6 Solve for x on $0 \le x < 2\pi$:

$$2\sin^2(x) - \sin(x) - 1 = 0$$

$\frac{\pi}{2}, \frac{7\pi}{6}, \frac{11\pi}{6}$	$\frac{\pi}{6}, \frac{\pi}{2}, \frac{5\pi}{6}$	$\frac{\pi}{2}, \frac{\pi}{3}, \frac{2\pi}{3}$
Purple	Light Pink	Dark Green

7 Solve for x on $0 \le x < 2\pi$:

$$2\sin(2x) = \sqrt{3}$$

$\frac{\pi}{3}, \frac{2\pi}{3}, \pi, \frac{4\pi}{3}$	$\frac{\pi}{6}, \frac{\pi}{3}, \frac{7\pi}{6}, \frac{4\pi}{3}$	$\frac{\pi}{6}, \frac{\pi}{3}, \frac{2\pi}{3}, \frac{5\pi}{6}$
Dark Pink	Yellow	Lime

8 Solve for x on $0 \le x < 2\pi$:

$$\cos(x)\tan(x) - \cos(x) = 0$$

$\frac{\pi}{4}, \frac{3\pi}{4}$	$\frac{3\pi}{4}, \frac{7\pi}{4}$	$\frac{\pi}{4}, \frac{5\pi}{4}$
Yellow	Navy Blue	Hot Pink

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9 Solve on the interval $[0, 2\pi)$:

$$2\cos^2(x) = 3\sin(x) - 3$$

$\frac{\pi}{6}, \frac{5\pi}{6}, \frac{\pi}{2}$	$\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}$	$\frac{\pi}{2}, \frac{7\pi}{6}, \frac{11\pi}{6}$
Dark Green	Lime	Orange

10 Find the general solutions for x:

$$\sqrt{3}\tan(x) - 1 = 0$$

$\frac{\pi}{3} + n\pi$	$\frac{\pi}{6} + n\pi$	$\frac{\pi}{6} + \frac{n\pi}{2}$
Lime	Light Blue	Red

11 Find the general solutions for x:

$$2\sin(3x) = 1$$

$\frac{\pi}{16} + \frac{n\pi}{6}; \frac{7\pi}{16} + \frac{n\pi}{6}$	$\frac{\pi}{18} + \frac{2n\pi}{3}; \frac{5\pi}{18} + \frac{2n\pi}{3}$
Light Violet	Red

12 Find the general solutions for x:

$$\tan^2(x) - 3 = 0$$

$\frac{\pi}{3} + n\pi; \frac{2\pi}{3} + n\pi$	$\frac{\pi}{6} + n\pi; \frac{5\pi}{6} + n\pi$
Light Pink	Blue

13 Find the general solutions for x:

$$4\sin^2(x) - 3 = 0$$

$\frac{\pi}{6} + n\pi; \frac{5\pi}{6} + n\pi$	$\frac{\pi}{3} + n\pi; \frac{2\pi}{3} + n\pi$
Lime	Light Violet

14 Find the general solutions for x:

$$2\cos\left(\frac{x}{2}\right) - \sqrt{3} = 0$$

$\frac{\pi}{3} + 4n\pi; \frac{11\pi}{3} + 4n\pi$	$\frac{\pi}{3} + 2n\pi; \frac{13\pi}{3} + 2n\pi$
Lime	Dark Pink

15 Find the general solutions for x:

$$\sin(x) + 1 = \cos(x)$$

$n\pi; \frac{\pi}{2} + n\pi$	$2n\pi; \frac{3\pi}{2} + 2n\pi$
Peach	Light Orange

16 Find the general solutions for x:

$$2\sin\left(\frac{x}{3}\right) + \sqrt{2} = 0$$

$\frac{15\pi}{4} + 6n\pi; \frac{21\pi}{4} + 6n\pi$	$\frac{13\pi}{4} + 4n\pi; \frac{18\pi}{4} + 4n\pi$
Dark Pink	Purple

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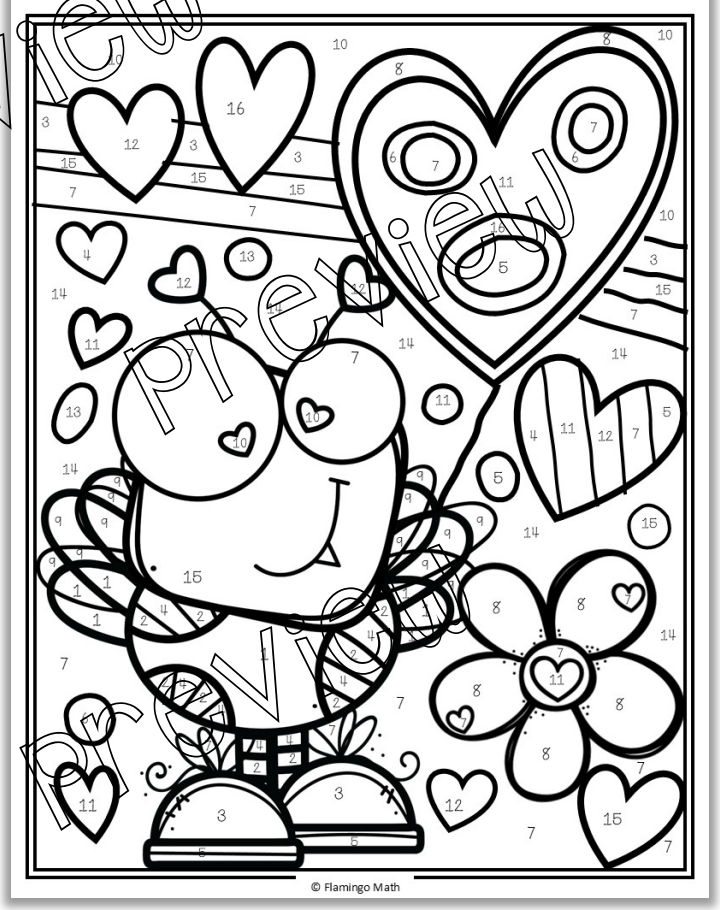
FTC-Integration Task Cards

Name:

Directions: Use this sheet to record your answers for the task cards below.

1.	**2.**
3.	**4.**
5.	**6.**
7.	**8.**

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