

# Practice Exam

**Study Guide and Exercise  
Book Pages**  
156 to 159

**Tools**

- grid paper
- geometry set
- graphing calculator

**Related Resources**

- G-1 Grid Paper
- G-5 Trigonometric Graph Paper

## Study Guide

Use the following study guide to direct students who have difficulty with specific questions to appropriate examples to review.

Question	Sections(s)	Refer to
1	1.3	Example
2	2.3	Example
3	3.5	Example
4	4.1	Question 1
5	4.3	Example
6	5.3	Example
7	5.4	Example
8	5.3	Questions 4 and 5
9	6.2	Example
10	7.5	Question 1
11	3.1	Question 9
12	1.1	Example
13	1.3	Question 13
14a)	1.4	Question 1
14b)	1.5	Question 1
14c)	1.6	Question 1
15	2.3	Example
16	3.3	Question 11
17a)	3.1	Question 5
17b)	3.1	Question 6
18	4.1	Question 6
19	4.3	Example
20	4.5	Example
21	4.5	Example
22	5.2	Example, Question 13
23	5.4	Example
24	5.6	Question 10
25	7.3	Example
26	1.2	Example
27	1.4	Question 4
28	1.6	Example
29	2.4	Example
30a)	2.3	Example
30b)	2.4	Example

Question	Sections(s)	Refer to
31	3.2	Question 7
32	3.5	Question 4
33	4.1	Question 6
34a)	4.2	Example
34b)	4.3	Example
35	4.6	Question 7
36	5.3	Example
37	5.5	Questions 5 and 7
38a)–e)	5.6	Example
38f)	5.7	Example
39	5.6	Question 11
40a)	6.2	Question 3
40b)	6.2	Questions 7 and 8
40c)	6.2	Question 9
41	5.8	Question 10
42	6.4	Question 6
43	7.4	Example
44	7.6	Example, Question 1
45	6.5	Example
46	3.5	Question 6

## Using the Practice Exam

Assign the Practice Exam to reinforce skills and concepts in preparation for a final examination. This exam can be assigned as an in-class or take-home assignment.

This is an opportunity for students to assess themselves by completing the questions and checking their answers against the answers in the back of the Study Guide and Exercise Book. They can then revisit any questions with which they had difficulty.

### Multiple Choice Questions

- Work with students to develop strategies to determine the best answer for each of the multiple choice questions.
- Encourage students to work out rough solutions for each of the multiple choice questions before selecting the best answer.
- Encourage students to use the process of elimination and to cross out any of the multiple choice answers that they know are incorrect.
- For **question 5**, encourage students to use a scientific calculator to check their answer.
- For **questions 6, 7, and 8**, encourage students to use a graphing calculator to get a visual representation of the function.
- For **question 9**, encourage students to find more than one method to determine the best answer. For example, it can be solved by graphing, by factoring, and by substituting the values of the  $x$ -intercepts into the polynomial equation and determining whether the answer is zero.

## Short Answer Questions

- Work with students to develop strategies to determine the answer for each of the questions by completing short, rough, point-form solutions for each question.
- For **question 12**, remind students about the CAST rule.
- For **question 13**, remind students to have their calculators set to degrees, and review how to determine an angle using a scientific or graphing calculator when given the sine, cosine, or tangent ratio.
- For **question 14**, students should review the primary trigonometric ratios, the sine law, and the cosine law.
- For **question 15**, review with students the general form of a sine function or a cosine function.
- For **question 17**, students may still have trouble differentiating between a quadrant bearing and a true bearing. Encourage them to use the Internet to learn more about quadrant bearings and true bearings.
- For **question 18**, review the exponent rules with students and encourage them to check their final answers using a scientific or graphing calculator.
- For **question 20**, review the change of base formula.
- For **question 22**, encourage students to use a graphing calculator so that they have a visual representation of the polynomial function.
- For **question 24**, suggest that students draw a labelled diagram.

## Extended Response Questions

- Have students work in study groups to determine the solutions to these questions.
- Encourage students to write detailed solutions for each of the questions, with an emphasis on communication.
- Encourage students to label each question with the appropriate chapter number reference from the *Mathematics for College Technology 12 Study Guide and Exercise Book*.
- Remind students about the difference between exact answers and approximate answers.
- For **question 29**, review domain and range and transformations of functions.
- For **question 30**, encourage students to create tables of values before they graph each function.
- For **question 32**, review the law of sines and the law of cosines.
- For **question 35**, review the relationship between percent and rate, how to determine the rate per compounding period, and how to determine the total number of compounding periods.
- For **question 38**, review the different types of factoring. Have students classify each of the questions by its factoring type.
- For **question 39**, have students draw a diagram of the storage chest with the different dimensions labelled correctly.
- For **question 40**, remind students about the difference between factoring a polynomial expression and solving a polynomial equation.
- For **question 41**, encourage students to use a graphing calculator.
- For **question 42**, suggest that students use the  $\pi$  symbol on their calculator, instead of using an approximation of  $\pi$ , so that they will have more accurate answers.
- For **questions 43 and 44**, review circle properties with students.

### DIFFERENTIATED INSTRUCTION

- Encourage students to make a list of useful formulas that they need to know and understand in order to be successful on the Practice Exam.
- Have students analyse each question and make a list of the knowledge and skills that they need to know in order to solve the question.
- Encourage students to provide detailed solutions for each question and, if possible, alternative solutions for each question.

### SUMMATIVE ASSESSMENT

- You may wish to use the final exam that you can find in the Instructor Centre on the Online Learning Centre at [www.mcgrawhill.ca/books/mct12](http://www.mcgrawhill.ca/books/mct12).