





# Power Up: Math ACT Prep, Week 2

Calculator Usage



**K20**  
L•E•A•R•N

# Bell Ringer

- Find your calculator.



# Bell Ringer: Question 1

If you have 60 minutes to complete 60 questions on the math portion of the ACT, how many questions per minute do you need to answer to not leave any blank?



# Bell Ringer: Question 2



What if you only had 40 questions and 32 minutes to complete an exam, how many questions per minute would you need to answer to not leave any blank?

# Bell Ringer – Reflection

- On which question(s) did you use your calculator?
- For which question(s) did you need to use a calculator?





# Essential Question

How can I increase my ACT score?



# Learning Objectives

- Understand how to use my calculator.
- Evaluate when to use my calculator.



# Calculator Usage

*“...all problems [on the math portion of the ACT] may be solved without a calculator.”*

– The ACT

# Calculator Usage: What Can I Use?

- You can use any 4-function, scientific, or graphing calculator that is not on the prohibited list.
- **Use a calculator that you are familiar with!**
- Check out [www.act.org/calculator-policy.html](http://www.act.org/calculator-policy.html) for more details.

# ACT Prep: Question 1

When  $x = -1$ , what is the value of  $3x^4 - 4x^3$ ?

A.  $-7$

B.  $-1$

C.  $1$

D.  $5$

E.  $7$

# ACT Prep: Question 1 – Reflection

When  $x = -1$ , what is the value of  $3x^4 - 4x^3$ ?

- Is it faster to solve this problem with or without a calculator?

# ACT Prep: Question 2

What is 5% of  $4.21 \times 10^5$ ?

F. 842

G. 2,105

H. 8,420

J. 21,050

K. 421,000

# ACT Prep: Question 2 – Reflection

What is 5% of  $4.21 \times 10^5$ ?

- Is it faster to solve this problem with or without a calculator?
- How should you use your calculator?
  - How do you enter a percentage?
  - How do you enter an exponent?

# ACT Prep: Question 3

What is the value of  $|3 - 17| - |-5|$ ?

A.  $-19$

B.  $9$

C.  $15$

D.  $19$

E.  $25$

# ACT Prep: Question 3 – Reflection

What is the value of  $|3 - 17| - |-5|$ ?

- Is it faster to solve this problem with or without a calculator?
- How should you use your calculator?
  - Do you need to type absolute value symbols?
  - How would you type absolute value symbols?



# ACT Prep: Question 4

What number is halfway between  $\frac{2}{7}$  and  $\frac{4}{3}$ ?

**F.**  $\frac{1}{2}$

**H.**  $\frac{34}{7}$

**K.**  $\frac{22}{21}$

**G.**  $\frac{3}{5}$

**J.**  $\frac{17}{21}$

# ACT Prep: Question 4 – Reflection

What number is halfway between  $\frac{2}{7}$  and  $\frac{4}{3}$ ?

- Is it faster to solve this problem with or without a calculator?
- How should you use your calculator?
  - How do you enter a fraction?

# ACT Prep: Question 5

Which of the following integers is closest to  $\frac{\sqrt{105}}{5}$ ?

**A.** 2

**C.** 5

**E.** 10

**B.** 4

**D.** 7

# ACT Prep: Question 5 – Reflection

Which of the following integers is closest to  $\frac{\sqrt{105}}{5}$ ?

- Is it faster to solve this problem with or without a calculator?
- How should you use your calculator?
  - How do you enter a square root (radical) symbol?

# ACT Prep: Question 6

When  $k = \frac{1}{2}$ , what is the value of  $\frac{4k}{k-2}$ ?

**F.**  $-\frac{4}{3}$

**H.**  $\frac{1}{3}$

**K.** 3

**G.** -1

**J.** 2

# ACT Prep: Question 6 – Reflection

When  $k = \frac{1}{2}$ , what is the value of  $\frac{4k}{k-2}$ ?

- Is it faster to solve this problem with or without a calculator?
- How should you use your calculator?
  - How do you convert a decimal to a fraction?
  - What change to this problem would change your calculator usage?

# Commit and Toss



***When or how should you use your calculator on the ACT?***

- 1) On a piece of paper, write a sentence that captures what you learned today.

# Commit and Toss



- 2) Crumple your paper.
- 3) Toss your paper.
- 4) Pick up someone else's paper.
- 5) Read the paper.





# You Powered Up!

Achievement Unlocked:

*Calculator Usage*



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