1 Benchmark: MA.6.A.3.1

Judith has \( x \) math problems to do for homework. Harry has 2 times as many problems to do as Judith. Janessa has 10 more math problems to do than Judith.

Which expression represents the total number of math problems Judith, Harry, and Janessa have to do all together?

A \( 10 - 2x + x + x \)
B \( x + 2x + x + 10 \)
C \( -2x + x + x + 10 \)
D \( x - x + 2x - 10 \)

2 Benchmark: MA.6.A.2.1

There are 4 girls for every boy in Andrew's school. There are 164 girls in his school. How many total students are in Andrew's school?

\[
\text{Girls} = 4 \times \text{Boys} = 164
\]

\[
\text{Boys} = \frac{164}{4} = 41
\]

Total Students = Girls + Boys = 164 + 41 = 205
Benchmark: MA.6.A.3.5

A rectangular gym is split into two sections. One section of the gym is 40 feet long. The other section is 120 feet long. Both sections are 70 feet wide. One expression for the area of the whole gym is 

\((40 \times 70) + (120 \times 70)\). Which of the following expressions also represents the area of the whole gym?

A \(40 \times 120 \times 70\)
B \((40 + 120) \times 70\)
C \(40 + (120 \times 70)\)
D \((40 \times 70) + 120\)

Benchmark: MA.6.A.5.1

In chess, the horse-shaped piece is called a knight. The knight on the chessboard shown below protects the squares marked with an 'X'.

How much of the chessboard does the knight protect?

F 0.8 of the chessboard
G 0.325 of the chessboard
H 0.25 of the chessboard
I 0.125 of the chessboard
5 Benchmark: MA.6.A.5.3

Lennie bought five books at the school book fair that cost between $2.99 and $5.49. Which is a reasonable estimate of the total cost for all five books?

- A less than $9
- B between $9 and $15
- C between $15 and $27
- D more than $27

6 Benchmark: MA.6.A.2.2

Benjamin made a Greek salad with $\frac{1}{4}$ cup of sliced olives and $\frac{1}{3}$ cup of feta cheese. What was the ratio of olives to feta cheese in the salad?

- F 4 to 3
- G 3 to 4
- H 6 to 3
- I 3 to 1

7 Benchmark: MA.6.A.5.1

One hundred forty-four of the 180 seventh-grade students attended the school dance last Saturday night. What percentage of seventh-grade students did NOT attend the dance?

- A 20%
- B 36%
- C 40%
- D 60%
8 Benchmark: MA.6.A.1.3

Roasted peanuts are three bags for $2.25 at the ballpark. How much does one bag of peanuts cost?

- $0.50  
- $0.65  
- $0.75  
- $1.00

9 Benchmark: MA.6.A.1.3

The market buys a crate of apples for $1.75. It sells each crate of apples for $2.25. If the market buys and then sells four crates of apples, how much more money will the market make than it spends?

- $0.50  
- $2.00  
- $2.75  
- $9.00

10 Benchmark: MA.6.A.5.3

Daniella has a summer job that pays $7.00 per hour. She works 32 hours a week on average. Daniella is willing to spend 30 percent of her summer earnings on a new computer. Which of the following is the best estimate of the number of weeks Daniella will have to work to afford a $500 computer?

- 6  
- 8  
- 10  
- 12
Benchmark Test : Grade 6 Math

11 Benchmark: MA.6.A.3.5

Which of these expressions must be equal to $a + b$?

A. $a \times b$
B. $a - b$
C. $b - a$
D. $b + a$

12 Benchmark: MA.6.A.5.2

Which of the following statements is true?

F. $\frac{44}{70} = \frac{3}{5}$
G. $\frac{10}{50} = \frac{1}{5}$
H. $\frac{13}{30} < \frac{1}{3}$
I. $\frac{9}{20} > \frac{1}{2}$

13 Benchmark: MA.6.A.1.3

Tina and Michelle compete in the shot put for their school. In their last meet, Tina's best throw was 13.60 meters. Michelle's best throw was 1.15 times longer than Tina's. How long was Michelle's best throw?

A. 14.82 meters
B. 15.27 meters
C. 15.61 meters
D. 15.64 meters
Benchmark: MA.6.A.2.1

Brett sealed 800 envelopes in 20 minutes. Working at the same rate, how many envelopes can he seal in 30 minutes?

Which expression is equivalent to $(3 - 2)(x + 9)$?

- A $x + 9$
- B $3x - 18$
- C $-2x + 12$
- D $x + 10$
Benchmark Test: Grade 6 Math

16  Benchmark: MA.6.A.3.1

Look at the function machine below.

```
IN    → divide by 8
      then add 5
→ OUT
```

What IN value produces an OUT value of 14?

```
6
```

17  Benchmark: MA.6.A.5.2

Which of the following numbers is between \( \frac{2}{9} \) and \( \frac{4}{9} \)?

- A  \( \frac{5}{9} \)
- B  \( \frac{1}{3} \)
- C  \( \frac{11}{18} \)
- D  \( \frac{31}{36} \)
18Benchmark: MA.6.A.1.3

Chelsea ordered a 6-foot sub sandwich to share with her friends at her birthday party. How many \(4 \frac{1}{2}\)-inch sandwiches can she make from the original sandwich?

19Benchmark: MA.6.A.5.3

Tina had $167.98 worth of items in her shopping cart at Spend Mart. Before checking out, she decided to return to the shelves a novel that cost $6.99, a blender that cost $27.22, and a pair of shorts that cost $12.76. Which is the best estimate of the amount of money that Tina spent not including tax?

A $50
B $120
C $130
D $160

20Benchmark: MA.6.A.3.5

Which of these equations is equivalent to \(3 \times (5 + z) = 24\)?

F \(15z = 24\)
G \(15 + z = 8\)
H \(5 + z = 21\)
I \(15 + 3z = 24\)
Benchmark Test: Grade 6 Math

21 Benchmark: MA.6.A.2.2

The value of gold is always changing. Last year, Max had a 0.2-ounce piece of gold appraised at $148.96. This year he had a 0.24-ounce piece of gold appraised at $222.84. How much had the price of gold per ounce changed between Max’s appraisals?

A $73.88
B $122.50
C $183.70
D $209.36

22 Benchmark: MA.6.A.5.1

After choir practice, Jamal and Bettina shared a pizza that was cut into 10 equal slices. Jamal ate \( \frac{1}{2} \) of the pizza and Bettina ate \( \frac{1}{5} \) of the pizza. What percentage of the pizza did Jamal and Bettina eat altogether?

F 20%
G 50%
H 70%
I 100%

23 Benchmark: MA.6.A.3.5

Which of the following expressions is equivalent to \( 3(x + 2) + 4y + 9x - 5 \)?

A \( 12x + 12y - 4 \)
B \( 12x + 4y + 1 \)
C \( 12x + 4y - 3 \)
D \( 10x + 4y \)
Benchmark Test: Grade 6 Math

24 Benchmark: MA.6.A.5.2

Which of the following statements is true?

- F $\frac{12}{95} > \frac{12}{51}$
- G $\frac{3}{45} = \frac{3}{35}$
- H $\frac{7}{11} < \frac{7}{15}$
- I $\frac{3}{11} > \frac{3}{16}$

25 Benchmark: MA.6.A.1.1

The model below represents 0.4.

Which model represents the value of $0.4 \times 1.25$?

- A
- B
- C
- D
Florna was mowing her lawn. She mowed \( \frac{2}{5} \) of the lawn before taking a water break. Then, she mowed \( \frac{5}{8} \) of the remaining unmowed portion before it started to rain and she had to stop. A diagram of the portion mowed before her water break and the portion mowed after her water break is shown below.

Which expression can be used to find the fraction of the entire lawn that Florna mowed after her water break?

- \( \frac{5}{8} + \frac{3}{5} \)
- \( \frac{5}{8} - \frac{3}{5} \)
- \( \frac{5}{8} \times \frac{3}{5} \)
- \( \frac{5}{8} \div \frac{3}{5} \)
**Benchmark Test: Grade 6 Math**

27. **Benchmark: MA.6.A.1.1**

The model below represents 0.6.

```
| | | | | | | | | | |
| | | | | | | | | | |
```

Which model represents the value of $0.6 \div 0.2$?

- [A] 
- [B] 
- [C] 
- [D]


The telephone company charges $3.00 per month and $0.05 for every minute ($m$) of talk time. The expression below can be used to calculate the total monthly telephone charges.

$$3.00 + 0.05m$$

Based on this expression, what is the monthly cost, in dollars, to talk for 3 hours?
**Benchmark: MA.6.A.5.1**

Matthew answered 5 of 8 problems correctly on a math quiz. How is $\frac{5}{8}$ expressed as a decimal?

- [ ] 0.625
- [ ] 0.6
- [ ] 0.7
- [ ] 0.75
- [ ] 0.8

**Benchmark: MA.6.A.5.3**

Vanessa filled her car's gas tank in Milwaukee and drove to Des Moines before stopping again for gasoline. When she stopped, her gas tank was nearly empty. She filled it to $\frac{3}{4}$ full with 8.6 gallons of gas. If Vanessa's car usually averages a little less than 31 miles per gallon, about how many miles did she drive between Milwaukee and Des Moines?

- [ ] 250 miles
- [ ] 300 miles
- [ ] 350 miles
- [ ] 400 miles
- [ ] 450 miles
Benchmark Test: Grade 6 Math

31  Benchmark: MA.6.A.1.1

The model below represents \( \frac{4}{8} \).

Which model represents the value of \( \frac{4}{8} \div \frac{1}{4} \)?

A  

B  

C  

D  

32  Benchmark: MA.6.A.2.1

Sally can frost 25 cupcakes per half hour, and Tonya can frost 20 cupcakes per half hour. How many cupcakes can Sally and Tonya frost if they work together for 3 hours?
33 **Benchmark: MA.6.A.2.2**

A 500-pill bottle of pain reliever costs $10.00 at the pharmacy. A 50-pill bottle of the same pain reliever costs $4.50. What is the difference in cost per pill between the larger and smaller bottles of pain reliever?

A $0.02  
B $0.05  
C $0.07  
D $0.11

34 **Benchmark: MA.6.A.3.1**

Rich set a function machine to add 5 and divide by 4. He showed the following chart to Cindy.

<table>
<thead>
<tr>
<th>IN</th>
<th>OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>59</td>
<td>16</td>
</tr>
<tr>
<td>71</td>
<td>19</td>
</tr>
<tr>
<td>?</td>
<td>40</td>
</tr>
</tbody>
</table>

How can Cindy find the missing input number?

F divide 40 by 4 and add 5  
G multiply 40 by 4 and subtract 5  
H subtract 5 from 40 and multiply by 4  
I multiply 40 by 4 and add 5

35 **Benchmark: MA.6.A.5.3**

Tabitha runs for fun. Last week she ran 2.9 miles through her neighborhood 2 times, and ran the 3.48-mile cross country course at her school 4 times. About how many miles did Tabitha run last week?

A 24 miles  
B 20 miles  
C 17 miles  
D 13 miles
Katie and Tori collected soup cans for a food drive. Tori collected 4 times as many cans as Katie. Let $k$ represent the number of soup cans Katie collected. Which expression can be used to find the total number of soup cans Katie and Tori collected?

- F $4k$
- G $k \div (4 + k)$
- H $4 + k$
- I $k + 4k$

A 60-ounce bottle of soda costs $1.20 at the grocery store. A 20-ounce bottle of soda costs $1.00. What is the difference in cost per ounce between the larger and the smaller bottles of soda?

- A $0.02$
- B $0.03$
- C $0.04$
- D $0.05$

Keisha has photographs from her trip to Florida to visit her cousins. She decides to put them into photograph albums. Each album holds 48 photographs. She fills two albums and one fourth of another album. How many photographs does she have?

- F 60 photographs
- G 96 photographs
- H 100 photographs
- I 108 photographs
39 Benchmark: MA.6.A.5.2

Which of the following lists is in order from least to greatest?

A. $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$

B. $\frac{1}{3}, \frac{2}{3}, 60\%, 75\%$

C. $\frac{1}{4}, \frac{1}{3}, \frac{1}{2}, 1$

D. $\frac{1}{3}, 0.33, 33\%, \frac{2}{3}$

40 Benchmark: MA.6.A.2.1

Alexis is the manager of a local copy shop. There are two copiers in the shop. Machine 1 can duplicate 1,200 documents every 30 minutes. Machine 2 can duplicate 950 documents every 30 minutes. How many documents can be duplicated using both machines working together for 1.5 hours?