

MAP Growth

8th Grade

Practice Test

Math

1. During the end of the year sale, all items are discounted 20%. If a shirt has a price tag of \$30 and a pair of jeans has a price tag of \$40, how much will they cost during the sale?

- A. \$14
- B. \$50
- C. \$54
- D. \$56
- E. \$62

2. The perimeter of the rectangle below is 42cm.



What is its area?

- A. 42cm^2
- B. 64cm^2
- C. 84cm^2
- D. 96cm^2
- E. 104cm^2

3. Simplify the expression below:

$$\frac{(t^3 \times t^4)^2}{t \times t^2 \times t^3} = ?$$

- A. 1
- B. t^2
- C. t^4
- D. t^8
- E. t^{10}

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Language Usage

4. Read the sentences.

People wear hats for many reasons, including to express themselves, protection from the sun, wearing a uniform, and as part of their religion. Different cultures have a variety of traditions of hat-wearing, including countless styles for both men and women. Do you like to wear hats?

Which of the following is the best revision of the first sentence?

- A. People wear hats for many reasons, including to express themselves, to protect themselves from the sun, and practicing their religion.
- B. People wear hats for many reasons, including self-expression, protection from the sun, and to practice their religion.
- C. People wear hats for many reasons, including expressing themselves, protecting themselves from the sun, and to practice their religion.
- D. People wear hats for many reasons, including self-expression, protection from the sun, and religious practice.

5. Which sentence is capitalized correctly?

- A. "Did you know," asked the teacher, "There are some fish that can live out of water?"
- B. "Please tell your sister," said the girl on the phone, "sharon will be there at 7:00."
- C. "Students," Mr. Hernandez instructed, "please bring your history books tomorrow."
- D. "this cake," Dana told her friend, "is one of the best cakes I have ever tasted."

6. Which of the following includes a metaphor?

- A. The police officer listened to her story with a poker face.
- B. My heart was beating fast as it was my turn to go on stage.
- C. It was freezing outside. My hands were as cold as ice.
- D. I was very surprised by her news as I was not expecting it.

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Reading

7. Read the paragraph, then answer the question.

How would you feel if you were walking along and came across a dragon? You would almost certainly feel surprised and excited, but would you feel more joyful, or more afraid? It might depend on how you have been brought up to think about dragons. Dragons have a different significance in Eastern cultures than they do in Western cultures. In China, dragons are called *Loong*, and are considered majestic, benevolent creatures that protect people and bring them good fortune. Eastern dragons are usually associated with water such as lakes and the ocean, usually do not have wings, and do not breathe fire. In Europe, dragons are regarded ferocious flying fire-breathing monsters that usually live in the mountains. In European myths and stories, heroes protect people from dragons. Dragons are an excellent example of how the same or similar symbols can have different meanings in different cultures.

How does the structure of the paragraph support its meaning?

- A. It helps the reader imagine what it might be like to meet a dragon.
- B. It emphasizes the differences in how dragons are viewed in different cultures.
- C. It compares the different appearances of various kinds of dragons.
- D. It compares dragons that live in mountains with dragons that live in water.

8. Read the sentence and answer the question.

Ever since I was a little child, it has always been important to me to keep my environment as clean and tidy as possible. I clean meticulously every day and always receive compliments on my spotless house.

Based on the sentences, what is the meaning of the word meticulously?

- A. Happily
- B. Unwillingly
- C. with attention to detail
- D. in a hurried or hasty manner

9. Read the passage.

Edmund's little sister, Lucy, suddenly started telling the entire family about a magical land she had found inside the closet. Edmund did not believe her, and he constantly made fun of her. A few days later, Edmund found out that Lucy had not been lying—the magical land was real! However, he didn't want the other family members to think he was insane like Lucy, so when they asked him about it, he lied, saying that he and Lucy had only been pretending that her land was real. "Thank you very much, Edmund," said Lucy.

Lucy's words are an example for which literary device?

- A. Metaphor
- B. Irony
- C. Alliteration
- D. Personification

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Solution and Explanations

Math

1. The correct answer is (D).

- There are two ways to solve this question. You can find the discount of each item separately and then add the price after the discount, or you can add the prices of the items together and then calculate the discount from the total price. Examine the second option and add the prices of both items and afterward, calculate the discount.

- To find the value of a certain percent of a number, multiply this percent (20% in this case) by that number, then divide the result you get by 100. In this case, the two items cost 40 and 30 dollars, meaning that the total price is 70 ($40 + 30 = 70$):

$$(70 \times 20) \div 100 = (70 \times 10 \times 2) \div 100 = (700 \times 2) \div 100 = 1400 \div 100 = 14$$

- Now that you know the value of the discount percent (\$14) of the total price (\$70), reduce it from the original price tag and get the current cost during the sale:

$$70 - 14 = \mathbf{56 (\$)}$$

Therefore, (D) is the correct answer.

- Notice that answer (A) is \$14, which is the value of the discount, not the total cost of the items after the discount, which is what the question is asking.
- Alternatively, you can reduce the percentage of discount (20%) from 100% and find the value of the discounted percent of the price:
 $100\% - 20\% = 80\%$ and then $80 \times 70 \div 100 = \mathbf{\$56}$.
- As mentioned, you can separate the two items (shirt and jeans) and calculate each percent separately and then sum them after the discount. This will be one extra step since there will be two percent calculations to perform instead of only one, but on the other hand, each of them could be simpler.

2. The correct answer is (E).

- To find the rectangle's area, you need to find the length of the side not given. To do so, use the given information (the perimeter of the rectangle) to discover the missing side. The perimeter of any shape can be calculated by adding the lengths of its sides. Since the shape in the question is a rectangle, you already know two sides (8cm is given). The perimeter is 42cm, so you can subtract the sides you already have and be left with a number that represents the sum of the other two sides:

$$42 - 8 - 8 = 42 - 16 = 42 - 10 - 6 = 32 - 6 = 26$$

- Since the two missing sides are equal (because it is a rectangle), you can simply divide the sum of them by two and discover the length of each side:

$$26 \div 2 = 20 \div 2 + 6 \div 2 = 10 + 3 = \mathbf{13}$$

- Now that you have the two different sides of the rectangle, you can calculate its area by multiplying them together (*Area = length \times width*):

$$13 \times 8 = 10 \times 8 + 3 \times 8 = 80 + 24 = 80 + 20 + 4 = \mathbf{104cm^2}$$

Hence, the correct answer is (E).

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3. The correct answer is (D).

- First, separate the numerator and denominator and simplify each of them individually. Divide the numerator by the denominator and simplify the whole expression.

- To simplify the expressions, you need to know these exponent properties:

$$1. a^m \times a^n = a^{m+n}$$

$$2. (a^m)^n = a^{m \times n}$$

$$3. \frac{a^m}{a^n} = a^{m-n}$$

- Start by simplifying the numerator. Use the first and second exponent properties from above (*Remember the order of operations*):

$$(t^3 \times t^4)^2 = (t^{3+4})^2 = (t^7)^2 = t^{7 \times 2} = t^{14}$$

- Simplify the denominator by using the first exponent property from above

(Note: t can also be referred to as t^1):

$$t \times t^2 \times t^3 = t^1 \times t^2 \times t^3 = t^{1+2+3} = t^6$$

- Finally, go back to the original fraction expression. place the values you found for the numerator and denominator, and divide them together using the third exponent property from above:

$$\frac{(t^3 \times t^4)^2}{t \times t^2 \times t^3} = \frac{t^{14}}{t^6} = t^{14-6} = t^8$$

As you can see, (D) is the correct answer.

Language Usage

4. The correct answer is (D).

- A list of the same ideas can be written correctly in several ways, as long as it maintains parallel structure so that every item in the list is written as the same part of speech (i.e. noun, infinitive, gerund).
- Answer (D) is correct because it writes a list using parallel structure. When a list is written in parallel structure, all the items in the list are written using the same part of speech. For example, every item in a list could be a noun, an infinitive ("to___"), or a gerund ("___ing"). In Answer D, all the elements in the list are nouns: self-expressions, protection, and practice. Note that there is still parallel structure even though two of the items in the list end in "ion" and one does not.
- Answer (A) is incorrect because it breaks parallel structure. "To express" and "to protect" are infinitives, but "practicing" is a gerund.

Answer (B) is incorrect because it breaks parallel structure. "Self-expression" and "protection" are nouns, but "to practice" is an infinitive.

Answer (C) is incorrect because it breaks parallel structure. "Self-expression" is a noun, "protecting" is a gerund, and "to practice" is an infinitive.

Solving tip: There can often be several correct ways to write the same list in a sentence. Here is the same list written three different ways:

Noun

People wear hats for many reasons, including self-expression, protection from the sun, and religious practice.

Infinitive

People wear hats for many reasons, including to express themselves, to protect themselves from the sun, and to practice their religion.

Gerund

People wear hats for many reasons, including expressing themselves, protecting themselves from the sun, and practicing their religion.

5. The correct answer is (C).

- The first word in a sentence should always be capitalized. The second half of a quotation should not begin with a capital letter unless it is a proper noun or title.
- The only sentence that is capitalized correctly is in answer (C). The first word of the sentence is capitalized, the proper noun (Mr. Hernandez) is capitalized, and the second half of the quotation does not begin with a capital letter. Therefore, the correct answer is (C).
- Answer (A) is incorrect because the second half of the quotation should not begin with a capital letter.

Answer (B) is incorrect because the proper noun in the second half of the quotation ("Sharon") should be capitalized.

Answer (D) is incorrect because the first word of the sentence ("this") should be capitalized.

6. The correct answer is (A).

- A **metaphor** is an expression, often found in literature, that describes a person or object by referring to something that is considered to possess similar characteristics. For example: Her mind is a computer; My mother says that my room is a disaster area.
- The only sentence that includes a metaphor is in answer (A). *Poker face* means "an expression on someone's face that does not show what the person is thinking or feeling." Therefore, the correct answer is (A).
- Answer (B) is incorrect as this sentence does not include any metaphor.

Answer (C) is incorrect as this sentence does not include any metaphor, but rather includes a simile ("my hands were as cold as ice"). A *simile* is an expression that contains the words "like" or "as" to compare one thing with another.

Answer (D) is incorrect as this sentence does not include any metaphor.

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Reading

7. The correct answer is (B).

- There are three steps to understanding this question:

1. Identify the structure of the paragraph:

The paragraph uses a comparison and contrast structure. It describes how Eastern and Western dragons are similar and different from each other in various characteristics.

2. Summarize the meaning of the paragraph:

Eastern dragons are considered helpful creatures that are signs of good fortune, while Western dragons are considered ferocious monsters.

3. Figure out how the structure supports the meaning:

The comparison-contrast structure shows differences in how Eastern and Western cultures view dragons by comparing the two kinds of dragons, one detail at a time.

- Answer (B) is correct because the passage uses a compare-contrast structure to discuss how dragons are viewed differently in Eastern and Western cultures.
- Answer (A) is incorrect because the paragraph briefly asks what it might be like to meet a dragon to introduce the topic, not to make a main point.

Answers (C) and (D) are incorrect because the comparison of dragons' appearances and where they live are part of the broader comparison of how dragons are characterized in different cultures.

8. The correct answer is (C).

- The correct meaning of "meticulously" is "with attention to detail." Even if you do not know this word, you can understand its meaning from the given sentences: the speaker explains how important it is to him or her to keep a clean house, and how he or she always receives compliments because the house is spotless. Therefore, it makes sense to assume the speaker cleans the house with attention to detail and does not miss a single spot.
- Answer (A) is incorrect because, although the speaker says it is important to him or her to clean, there is no mention of happiness and there is no way to know if the action is done happily or unhappily.

Answer (B) is incorrect because, since the speaker explains it is important to him or her to clean, it does not make sense that the action is done unwillingly.

Answer (D) is incorrect because, since the speaker likes to keep the house "as clean and tidy as possible" and the house is "spotless", it does not make sense to assume the action is done in a hurried or hasty manner. If the house was not that clean, it might make sense to assume that.

9. The correct answer is (B).

- Irony is the use of words to convey a meaning that is the opposite of their literal meaning. For example, if someone wants to go outside to play basketball, finds out it is raining and says, "Oh, that is just wonderful," he is being ironic, because he does not really mean that it is wonderful that he cannot do what he planned. He means that it is terrible but says it ironically.
- Since Edmund had made Lucy seem like a liar when he knew she was not, she has no reason to thank him. She means the opposite, and therefore it is an example of irony.

- Answer (A) is incorrect because a metaphor is a comparison, and Lucy's words do not contain a comparison.

Answer (C) is incorrect because an alliteration is a series of words in a row that have the same first sound.

Answer (D) is incorrect because a personification is a figure of speech in which a non-human thing or animal is described as having human qualities. Lucy's words do not contain a non-human described as having human qualities.

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