Math practice test

Questions 1-5 / Without a calculator

Record a numerical answer for each question. Show your work in the space provided.

01 The outdoor thermometer read −6°F at dawn. By noon it had risen 14°F and then fallen 3°F. What was the final temperature in °F?

Answer _____

02 Evaluate $3^2 - 2 \times (-4)$. Enter the numerical value.

Answer _____

03 A map key says 1 inch represents 4 miles. A marked path measures 2 1/2 inches on the map. How many miles does the path represent?

Answer _____

04 Solve x/3 + 4 = 9. What is x?

Answer _____

05 A tray contains 3/4 of a pound of dough. A cook removes 1/8 of a pound. How many pounds remain? Enter a fraction or decimal.

Answer _____

Math practice test

Questions 6-10 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

06 A rectangular patio measures 12 feet by 8 feet. A 3-foot-by-2-foot corner is left unpaved for a planter. What area is paved, in square feet?

Answer _____

07 A trail climbs from elevation 320 feet at mile 2 to 470 feet at mile 5. What is the average rise in feet per mile?

Answer _____

08 A $64 jacket is discounted 25%. A sales tax of 5% is applied to the discounted price. How many dollars are due?

Answer _____

09 A workshop collected $126 from 18 tickets. Adult tickets cost $9 and student tickets cost $5. How many adult tickets were sold?

Answer _____

10 Five riders waited 3, 12, 7, 4 and 19 minutes. What is the median wait, in minutes?

Answer _____

Math practice test

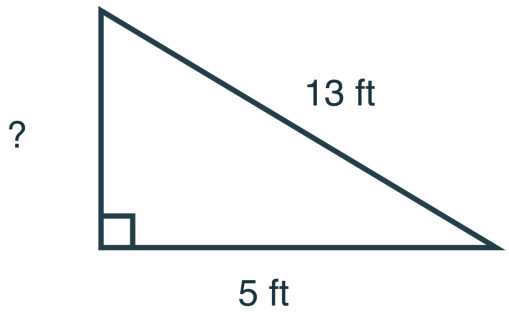
Questions 11-15 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

11 Solve $4(t - 3) = 2t + 16$. What is t?

Answer _____

12 A ladder, the level ground and a wall form a right triangle. The ladder is 13 feet long and its foot is 5 feet from the wall. How high up the wall does it reach, in feet?



Answer _____

13 The temperature of a cooler follows $T(h) = 68 - 4h$ for the first six hours. What is $T(5)$, in degrees Fahrenheit?

Answer _____

14 A 24-ounce bag of rice costs $3.36. A second bag costs $0.16 per ounce. How many cents per ounce cheaper is the first bag?

Answer _____

15 A lift can carry at most 480 pounds. A cart weighs 105 pounds. Identical boxes weigh 28 pounds each. How many whole boxes at most can ride with the cart?

Answer _____

Math practice test

Questions 16-20 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

16 For $x = -3$ and $y = 5$, find the value of $2x^2 - y$.

Answer _____

17 A garden club increased from 32 to 40 members. What was the percent increase? Enter the number before the percent sign.

Answer _____

18 A delivery driver averaged 18 stops per shift over four shifts. On the first three shifts she made 15, 24 and 17 stops. How many stops did she make on the fourth shift?

Answer _____

19 A straight line passes through (2, 9) and (4, 15). What is its y-intercept?

Answer _____

20 A print shop charges $18 to set up a job and $0.12 per flyer. A second shop charges $6 plus $0.20 per flyer. At what number of flyers are the totals equal?

Answer _____

Math practice test

Questions 21-25 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

21 An organizer has 36 pens and 48 pencils. She wants the greatest possible number of identical kits, using all supplies. Each kit must contain both items. How many kits can she make?

Answer _____

22 A circular stage has a diameter of 10 meters. Use 3.14 for π. How many square meters does its surface cover?

Answer _____

23 An audio cable and an adapter cost $46 together. The cable costs three times as much as the adapter plus $2. What is the adapter price, in dollars?

Answer _____

24 A pump fills 54 gallons in 6 minutes at a constant rate. It runs for 4 minutes, stops for 3 minutes, then runs for 5 minutes. How many gallons does it deliver?

Answer _____

25 A plant is measured every week. The heights at weeks 1, 2 and 3 are 8, 11 and 14 cm. If the same linear pattern continues, what will its height be at week 7, in centimeters?

Answer _____

Math practice test

Questions 26-30 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

26 A badge requires at least 80 points. Dalia has 38 and earns 7 per completed task. What is the fewest additional tasks she needs?

Answer _____

27 A rectangular tank measures 60 cm by 30 cm at its base. Water is 25 cm deep. Given 1,000 cubic centimeters per liter, how many liters are in the tank?

Answer _____

28 A shipment has 240 cups. Inspection finds that 7.5% have chipped rims. How many cups have undamaged rims?

Answer _____

29 A bundle of n cards costs 4n + 6 dollars with postage. Two bundles, each with n = 7, are ordered separately. How many dollars are paid?

Answer _____

30 A jar holds 6 red, 4 blue and 2 green tokens. You draw one token at random. What is the probability it is blue or green? Enter a fraction or decimal.

Answer _____

Math practice test

Questions 31-35 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

31 A savings plan starts with $80 and doubles at each annual anniversary, with no withdrawals. How many dollars are in it immediately after the third anniversary?

Answer _____

32 The roots of $x^2 - 7x + 12 = 0$ are both positive. What is the larger root?

Answer _____

33 A drawing of a countertop is 7.5 cm long. Its actual length is 180 cm. At that scale, how long on the drawing is a 72 cm shelf, in centimeters?

Answer _____

34 A hiker walks east at 3 miles per hour for 2 hours, rests for 1 hour, then walks east for 2 hours at 4 miles per hour. What is the average speed for the entire trip, including the rest, in miles per hour?

Answer _____

35 Two angles on a straight line have measures in the ratio 2 to 3. What is the measure of the smaller angle in degrees?

Answer _____

Math practice test

Questions 36-40 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

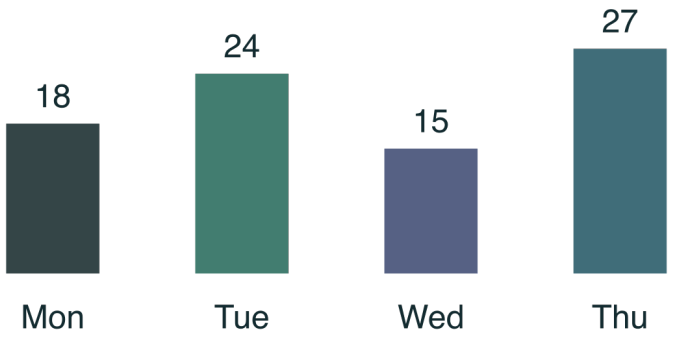
36 A weather tent may operate only when the temperature is strictly below 90°F. It starts at 71°F and rises 3°F each hour. What is the greatest whole number of elapsed hours for which it may operate?

Answer _____

37 An expression simplifies to ax + 7 after expanding 3(2x + 4) − (x + 5). What is the coefficient a?

Answer _____

38 A library recorded these afternoon visits: Monday 18, Tuesday 24, Wednesday 15, Thursday 27. How many more visits occurred on Tuesday and Thursday combined than on Monday and Wednesday combined?



Answer _____

39 A table gives the pairs (1, 7), (3, 15) and (5, 23) for a linear function. What is its value when the input is 8?

Answer _____

40 At a cinema, 72 seats are occupied. That is 60% of its seats. How many seats are empty?

Answer _____

Math practice test

Questions 41-45 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

41 A recipe uses the relation F = (9/5)C + 32 between temperature scales. When F = 86, what is C in degrees Celsius?

Answer _____

42 A banner is 4 feet longer than it is wide. Its area is 45 square feet. What is its width in feet?

Answer _____

43 A ball's height is modeled by $h(t) = -t^2 + 6t + 1$ meters. What is its height at t = 3 seconds, in meters?

Answer _____

44 Floor tiles come in boxes covering 14 square feet. A crew must cover 212 square feet, with no extra allowance. What is the least number of whole boxes it must buy?

Answer _____

45 A survey asked 60 bus riders where they board. Twenty-four said downtown. If that fraction held among 350 riders, how many would board downtown?

Answer _____

Math practice test

Questions 46-50 / Calculator permitted

Record a numerical answer for each question. Show your work in the space provided.

46 A rectangular label has perimeter 38 centimeters. Its length is 12 centimeters. What is its area in square centimeters?

Answer _____

47 Find the smallest integer x that satisfies $-3x + 4 < -11$.

Answer _____

48 A square has side length $s + 2$ centimeters. Its area expands to $s^2 + bs + 4$ square centimeters. What is b?

Answer _____

49 A bike rental costs $8 for the first hour and $3 for each additional whole hour. What is the total cost of a 5-hour rental, in dollars?

Answer _____

50 The line $y = -2x + 10$ crosses the x-axis. What is the x-coordinate of that crossing?

Answer _____