|  | 1. | The cost of setting the type for a pamphlet is $\$ 15$ and the cost of paper and printing is 25 cents per copy. Write a formula which will give in dollars the total cost ( $T$ ) of printing $n$ copies. <br> A. $T=15+0.25 n$ <br> B. $T=25+15 n$ <br> C. $T=15+25 n$ <br> D. $T=40 \mathrm{n}$ |
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|  | 2. | Translate "the product of $x$ and $y$ divided by three times their difference." <br> A. $\frac{3(x-y)}{x y}$ <br> B. $x y \div x-3 y$ <br> C. $\frac{x y}{3(x-y)}$ <br> D. $\frac{x y}{3 x-y}$ |
|  | 3. | Solve $\frac{3}{4} x=\frac{15}{2}$ <br> A. 10 <br> B. 20 <br> C. 30 <br> D. 40 |
|  | 4. | Solve: $12 x-5 x+3=10$ <br> A. -1 <br> B. $\frac{7}{17}$ <br> C. 1 <br> D. $1 \frac{6}{7}$ |
|  | 5. | Solve: $x-3(4-x)=-8$ <br> A. -5 <br> B. -2 <br> C. 1 <br> D. 10 |
|  | 6. | Solve: $-2(4 x-6)=6-6 x$ <br> A. -9 <br> B. -6 <br> C. $1 \frac{2}{7}$ <br> D. 3 |
|  | 7. | Solve: $\frac{3}{4} y+8=-7-\frac{1}{2} y$ <br> A. -12 <br> B. $-\frac{4}{5}$ <br> C. $\frac{4}{5}$ <br> D. 12 |
|  | 8. | Solve: $\frac{x}{2}+\frac{3}{2}=1$ <br> A. -2 <br> B. -1 <br> C. 1 <br> D. 2 |
|  | 9. | A baseball pitcher's earned-run average (E) is given by the formula $E=9\left(\frac{a}{b}\right)$, where a is the number of earned runs the pitcher has allowed and $b$ is the number of innings pitched. Solve the formula for $b$. <br> A. $b=\frac{9 a}{E}$ <br> B. $b=\frac{9 E}{a}$ <br> C. $b=9 E-a$ <br> D. $b=a-9 E$ |
|  | 10. | Solve the formula $p=(k+1) m$ for $m$. <br> A. $m=\frac{p}{k+1}$ <br> B. $m=\frac{k+1}{p}$ <br> C. $m=p+k+1$ <br> D. $m=p-k-1$ |
|  | 11. | Solve for $\mathrm{f}: T=m g-m f$ <br> A. $f=\frac{T g}{m}$ <br> B. $f=\frac{m g+T}{m}$ <br> C. $f=g-T$ <br> D. $f=\frac{m g-T}{m}$ |
|  | 12. | Solve the formula $P=w(l+1)$ for $l$. <br> A. $l=\frac{P-1}{w}$ <br> B. $l=\frac{P-w}{w}$ <br> C. $l=P+w+1$ <br> D. $l=P-w-1$ |
|  | 13. | Solve: $4-(3+2 x)>-7$ <br> A. $x<3$ <br> B. $x>3$ <br> C. $x<4$ <br> D. $x>4$ |
|  | 14. | Solve: $7-2(4-4 x)<5-(2+4 x)$ <br> A. $x>\frac{1}{3}$ <br> B. $x<\frac{1}{3}$ <br> C. $x<1$ <br> D. $x>1$ |


|  | 15. | Solve: $-3 x-4>-2(x-1)$ <br> A. $x<-6$ <br> B. $x>-6$ <br> C. $x<-2$ <br> D. $x>-2$ |
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|  | 16. | Solve: $-3 x-4>-2(x-1)$ <br> A. $x<-6$ <br> B. $x>-6$ <br> C. $x<-2$ <br> D. $x>-2$ |
|  | 17. | Solve: $4-(5-2 x) \leq 6 x-25$ <br> A. $x \leq 3$ <br> B. $x \geq 3$ <br> C. $x \leq 6$ <br> D. $x \geq 6$ |
|  | 18. | The charge to rent a car for a day is $\$ 16$. There is an additional charge of $\$ 0.12$ per mile. What is the greatest number of miles that a rented car can be driven in a day if the total bill is to be less than $\$ 40$ ? <br> A. 160 miles <br> B. 190 miles <br> C. 199 miles <br> D. 240 miles |
|  | 19. | Ali has twice as many coins at Gil. If the total number of coins they have is at least 40, what is the smallest number of coins that Gil can have? <br> A. 13 <br> B. 14 <br> C. 26 <br> D. 27 |
|  | 20. | Solve $-4<2+3 x \leq 14$ <br> A. $-9<x \leq 9$ <br> B. $-2<x \leq 4$ <br> C. $-\frac{2}{3}<x \leq 4$ <br> D. all real numbers |
|  | 21. | Solve: $-1<x+3 \leq 9$ <br> A. $2<x \leq 12$ <br> B. $-1<x \leq 6$ <br> C. $-4<x \leq 6$ <br> D. $2<x \leq 9$ |
|  | 22. | The tensile strength of a material can be determined by the formula $t=\frac{\text { breaking force }}{\text { thickness } \cdot \text { width }}$. What breaking force would yield a tensile strength between 45,000 and 51,000 pounds per square inch for a strip of material 0.02 inches thick and 0.05 inches wide? <br> A. ( $45<$ breaking force $<51$ ) pounds <br> B. $(255<$ breaking force $<315)$ pounds <br> C. ( 450 < breaking force < 510) pounds <br> D. $(2,550<$ breaking force $<3,150)$ pounds |
|  | 23. | Solve: $\frac{y-3}{4}=\frac{3}{4}$ <br> A. 12 <br> B. 6 <br> C. 0 <br> D. -6 |
|  | 24. | For what value of x will $\frac{x+2}{5}=\frac{x+1}{4}$ be true? <br> A. 13 <br> B. 9 <br> C. 3 <br> D. 2 |
|  | 25. | Solve: $\frac{15}{2 x+1}=\frac{5}{3}$ <br> A. 2 <br> B. 3 <br> C. 4 <br> D. 8 |
|  | 26. | Solve: $\frac{x+1}{4}=\frac{5}{12}$ <br> A. $\frac{2}{3}$ <br> B. $\frac{3}{2}$ <br> C. $\frac{19}{12}$ <br> D. 4 |
|  | 27. | The ratio of an object's weight on Earth to its weight on Mars is 5:2. How much would a man who weighs 165 pounds on Earth weigh on Mars? <br> A. 66 pounds <br> B. 166.5 pounds <br> C. 400 pounds <br> D. 412.5 pounds |


|  | 28. | The ratio of the sides of $\triangle A B C$ to the sides of a similar triangle, $\triangle X Y Z$, is $\frac{5}{8}$. If the base of $\triangle A B C$ is 7 m , what is the length of the base of $\Delta X Y Z$ ? <br> A. 4.4 m <br> B. 5.7 m <br> C. 9.3 m <br> D. 11.2 m |
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|  | 29. | Of the 20,000 votes cast in an election, $60 \%$ were for Franklin. How many were cast for the other candidates? <br> A. 120 <br> B. 800 <br> C. 8,000 <br> D. 12,000 |
|  | 30. | A local store has a $25 \%$ discount on all clothing. How much would you have to pay for a suit which ordinarily sells for $\$ 220$ ? <br> A. $\$ 55$ <br> B. \$165 <br> C. \$195 <br> D. \$245 |
|  | 31. | The following ordered pairs represent a function: $(-2,10),(-1,7),(0,6),(1,7)$, and $(2,10)$. Which equation could represent the function? <br> A. $y=-4 x+2$ <br> B. $y=x^{2}-6$ <br> C. $y=5 x$ <br> D. $y=x^{2}+6$ |
|  | 32. | Which set of ordered pairs represents a nonlinear function? <br> A. $(0,0),(1,1),(2,2),(3,3)$, and $(4,4)$ <br> B. $(0,0),(1,-1),(2,-2)$, and $(4,-4)$ <br> C. $(0,-1),(1,0),(2,1),(3,2)$, and $(4,3)$ <br> D. $(0,0),(1,1),(2,8),(3,27)$, and $(4,64)$ |
|  | 33. | Write a compound inequality for the graph. <br> A. $x<-1$ and $x \geq 2$ <br> B. $x<-1$ or $x \geq 2$ <br> C. $x \leq-1$ or $x>2$ <br> D. $x \leq-1$ and $x>2$ |
|  | 34. | Which compound inequality has the solution set shown in the graph? <br> A. $-2<y<3$ <br> B. $-2<y \leq 3$ <br> C. $y \geq-2$ or $y<3$ <br> D. $-2 \leq y<3$ |
|  | 35. | Simplify: $0 . \overline{36} \div 2$ |
|  | 36. | Simplify: $0 . \overline{36}+\frac{1}{2}$ |
|  | 37. | Simplify: $0 . \overline{36} \cdot \frac{5}{6}$ |
|  | 38. | When eight is added to three times the number $x$, the result is equal to seven times the difference of the number $x$ and six. What is the value of $x$ ? |
|  | 39. | Alex walked 1 mile in 15 minutes. Sally walked 3,520 yards in 24 minutes. In miles per hour, how much faster did Sally walk than Alex? (Note: 1 mile = 1,760 yards) |
|  | 40. | The perimeter of a triangle is 51 centimeters. The lengths of its sides are consecutive odd integers. Find the lengths of the longest side of this triangle. |

