

SCHOLASTIC MATH

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NUMBERS IN THE NEWS

All-Woman Spacewalk

$560 - 495 = 65$ women

$65:560 = 13:112$

How Bees Catch Zzz's

$33^\circ \leq t \leq 35^\circ$

Rubik's Robot

$125 \times 0.60 = 75$ times

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DOMINO DESIGNER

1. $1\frac{1}{2} = \frac{3}{2}$

$18 \div \frac{3}{2} = 18 \times \frac{2}{3} = 12$ dominoes

2. $1\frac{5}{8} = \frac{13}{8}$

$26 \div \frac{8}{13} = 26 \times \frac{13}{8} = 42\frac{1}{2}$ dominoes

3. $21\frac{1}{4} = \frac{85}{4}$; $1\frac{1}{4} = \frac{5}{4}$

$\frac{85}{4} \div \frac{5}{4} = \frac{85}{4} \times \frac{4}{5} = 17$ dominoes

4. $1\frac{2}{5} = \frac{7}{5}$

$35 \div \frac{7}{5} = 35 \times \frac{5}{7} = 25$ levels

5. $14 \div \frac{7}{25} = 14 \times \frac{25}{7} = 50$ dominoes

No, she doesn't have enough dominoes. She needs 25 more.

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AFTER THE FIRE

1. $\frac{4,100 \text{ cm}}{w} = \frac{32,48 \text{ cm}}{1 \text{ pdr}}$

$w = 126.23$ pieds du Roi

2. $\frac{35 \text{ pdr}}{w} = \frac{30,90 \text{ pdr}}{10 \text{ m}}$

$w = 11.33$ meters

3. $\frac{4,500 \text{ mm}}{h} = \frac{162,4 \text{ mm}}{0,5 \text{ pdr}}$

$h = 13.85$ pieds du Roi

4. $\frac{60 \text{ in.}}{h} = \frac{6,4 \text{ in.}}{0,5 \text{ pdr}}$

$h = 4.69$ pieds du Roi

5A. $\frac{242 \text{ pdr}}{226 \text{ ft}} = \frac{x}{1 \text{ ft}}$

$x = 1.07$ pieds du Roi

5B. Answers will vary. Please accept all reasonable answers.

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LESSONS FROM POOP

Island	Guano Area (square meters)
Beagle	494,080
Brash	295,230
Earle	53,093
Heroina	455,416
Platter	100,809

2. Largest area: Beagle

Smallest area: Earle

3. Total guano area: $494,080 \text{ m}^2 + 295,230 \text{ m}^2 + 53,093 \text{ m}^2 + 455,416 \text{ m}^2 + 100,809 \text{ m}^2 = 1,398,628 \text{ m}^2$

$1,398,628 \text{ m}^2 \times \frac{0.53 \text{ nests}}{1 \text{ m}^2} \times \frac{2 \text{ penguins}}{1 \text{ nest}} = 1,482,546$ penguins

4. $0.55x = 1,503,054$

$x = 2,732,825$ Adélie penguins

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WE NEED #DIVERSEBOOKS

Accept all reasonable answers based on the graphs. Answers were found using the original data.

1. B, White

2. C, 2016

3. D, 1,008

$144 \text{ weeks} \times 7 \text{ days/week} = 1,008$ days

4. B, 120

$70 + 50 = 120$

5. A, 188

$5\% + 1\% = 6\%$

$3,134 \times 0.06 = 188.04 \approx 188$

6. D, 250

$340 - 90 = 250$

7. $144:14 = 72:7$

8. $50 \div 3,200 = 0.0156 \approx 2\%$

9. $\frac{108 - 27}{27} \times 100 = 300\%$

10. Answers will vary. Please accept all reasonable bar graphs.

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BIG GAME BIG CITY

1. Category: City/region

2. $11 + 10 + 7 + 4 + 3 + 3 + 3 + 3 + 2 + 2 + 2 + 1 + 1 + 1 + 1 = 54$ total dots; 54 represents the total number of times the Superbowl has occurred since 1967.

3. See dot plot below.

4. 3 and 1

5. The southeast is chosen most often; answers will vary. Possible answer: The warmer climates are most preferred to play in.

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BY THE NUMBERS: DOLITTLE

Use the order of operations to solve.

1. Subtract 180 from 230 and add 10

2. Multiply 60 by 32

3. Add 3 to 1920

$(230 - 180 + 10) \times 32 + 3 = ?$

$(60) \times 32 + 3 = 1923$

The Voyages of Doctor Dolittle won the Newbery Medal for children's literature in 1923.

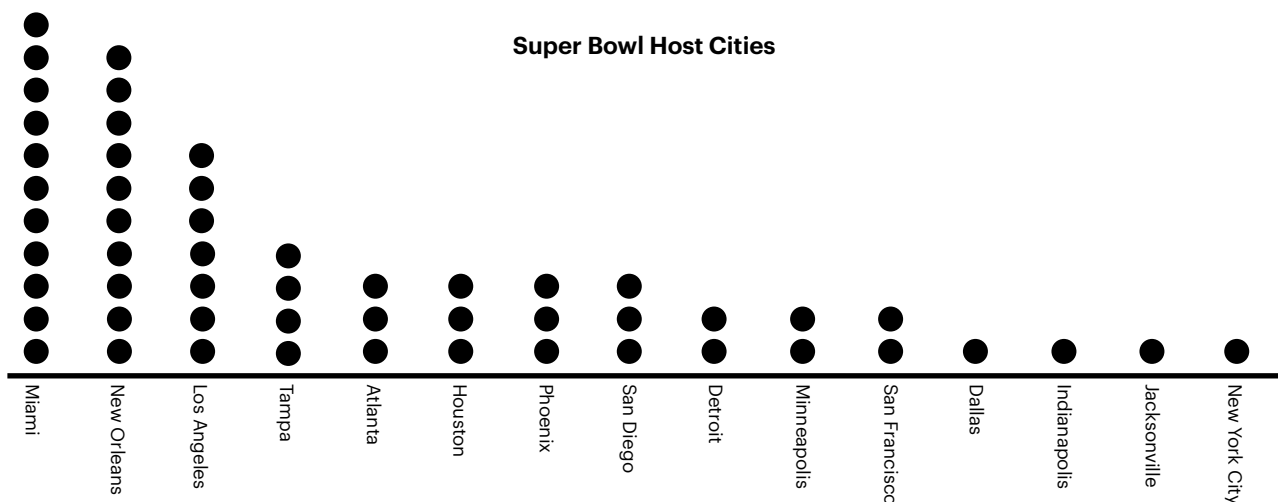
PROBLEM OF THE DAY

1. $\frac{5}{8} \times \frac{1}{2} = \frac{5}{16}$

2. $102 \text{ lb} \times 0.60 = 61.2 \approx 61 \text{ lb}$

3. $SA = 6(5 \text{ in.})^2 = 150 \text{ in.}^2$

4. $d \leq 175$



answers continued on page 2

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5. 200:350 = 4:7
6. B, column
7. A line graph because it shows change over time.
8. \$294,156,605 – \$71,500,000 = \$222,656,605
9. $71 + 10 = 81$; $71 \div 81 = 0.876 = 88\%$
10. 12:30 a.m. – 9:02 p.m. = 3 hours 28 minutes
11. $180^\circ - (62^\circ + 54^\circ) = 64^\circ$
12. $2020 - 1919 = 101$ years
13. 12
14. $\frac{4}{6}$ or 67%
15. $m = \frac{1-3}{4-5} = \frac{-2}{-1} = 2$
16. Dress: $\$30 \div 2$ wears = \$15 per wear
Sweater: $\$75 \div 6$ wears = \$12.50 per wear
17. D, circle
18. 53×10^5
 $53 \times 10^5 = 5,300,000$
 $5.2 \times 10^6 = 5,200,000$
19. $8 \times 17 = 412x$
 $x = 0.33$
20. $381 \text{ days} \times \frac{1 \text{ year}}{365 \text{ days}} = 1.044 \text{ years}$

DOMINO DESIGNER SKILL BUILDERS

Domino Division

1. $1\frac{1}{5} = \frac{6}{5}$
 $72 \div \frac{6}{5} = 72 \times \frac{5}{6} = \frac{360}{6} = 60$ dominoes
2. $1\frac{1}{2} = \frac{3}{2}$
 $21 \div \frac{3}{2} = 21 \times \frac{2}{3} = \frac{48}{3} = 14$ dominoes
14 dominoes \times 2 lines = 28 dominoes
3. $41\frac{1}{4} = \frac{165}{4}$; $1\frac{1}{4} = \frac{5}{4}$
 $\frac{165}{4} \div \frac{5}{4} = \frac{165}{4} \times \frac{4}{5} = \frac{660}{20} = 33$ dominoes
4. $2\frac{2}{5} = \frac{12}{5}$
 $72 \div \frac{12}{5} = 72 \times \frac{5}{12} = \frac{360}{12} = 30$ rows of dominoes
5. $4\frac{7}{13} = \frac{59}{13}$
 $354 \div \frac{59}{13} = 354 \times \frac{13}{59} = \frac{4,602}{59} = 78$ dominoes
No, she won't have enough dominoes. She needs 35 more.

Reciprocals

1. C, $\frac{1}{23}$
2. D, $\frac{7}{25}$
3. $\frac{11}{6}$
4. $\frac{18}{85}$
5. $\frac{1}{8} \times \frac{5}{17} = \frac{5}{136}$
6. $\frac{7}{2}, \frac{24}{8}, \frac{18}{7}, \frac{1}{2}, \frac{2}{11}$

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- A.
1. D, use the reciprocal of the divisor

2. $1\frac{1}{4} = \frac{5}{4}$
 $25 \div \frac{5}{4} = 25 \times \frac{4}{5} = \frac{100}{5} = 20$ dominoes

B.

1. $1\frac{1}{2} = \frac{3}{2}$
 $18 \div \frac{3}{2} = 18 \times \frac{2}{3} = 12$ dominoes
12 dominoes \times 2 lines = 24 dominoes
 $18 \div \frac{3}{5} = 18 \times \frac{5}{3} = 30$ dominoes
 $24 + 30 = 54$ total dominoes

AFTER THE FIRE SKILL BUILDERS

Cathedral Conversions

1. $\frac{127 \text{ m}}{x} = \frac{10 \text{ m}}{30.90 \text{ pdr}}$
 $x = 392.43$ pieds du Roi
2. $\frac{150 \text{ pdr}}{x} = \frac{1 \text{ pdr}}{12.8 \text{ in.}}$
 $x = 1,920$ in.
3. $\frac{1,290 \text{ cm}}{x} = \frac{16.24 \text{ cm}}{0.5 \text{ pdr}}$
 $x = 39.72$ pieds du Roi
4. $\frac{10.5 \text{ yd}}{x} = \frac{1 \text{ yd}}{2.8 \text{ pdr}}$
 $x = 29.4$ yards
5. $\frac{261 \text{ cm}}{x} = \frac{1 \text{ cm}}{0.39 \text{ in.}}$
 $x = 101.79$ in.
 $101.79 \text{ in.} - 39.3 \text{ in.} = 62.49 \text{ in.}$
Emmanuel is wider by 62.49 inches.

Metric Lengths

1. $280 \text{ m} \times \frac{3,2808 \text{ ft}}{1 \text{ m}} = 918.62 \text{ ft}$
2. $4,177 \text{ mi} \times \frac{1 \text{ km}}{0.6214 \text{ mi}} = 6,721.99 \text{ km}$
3. $295 \text{ ft} \times \frac{1 \text{ m}}{3,2808 \text{ ft}} \times \frac{100 \text{ cm}}{1 \text{ m}} = 8,991.71 \text{ cm}$
4. C, 0.001 m
5. A, 0.02 km
0.02 kilometers is not a realistic measurement because it's equivalent to 65.62 feet, which is much greater than the length or width of a typical classroom.

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- A.
1. True
2. $\frac{7.5 \text{ ft}}{x} = \frac{1 \text{ ft}}{30.48 \text{ cm}}$
 $x = 228.6 \text{ cm}$
- B.
1A. $\frac{10.3 \text{ pdr}}{x} = \frac{1 \text{ pdr}}{325 \text{ mm}}$
 $x = 3,347.5$ millimeters
- 1B. $\frac{8.5 \text{ in.}}{x} = \frac{6.4 \text{ in.}}{0.5 \text{ pdr}}$
 $x = 0.66$ pieds du Roi

LESSONS FROM POOP SKILL BUILDERS

Poop Percents

1. $18 \times 0.89 = 16$ species
2. $40,168,770 \times 0.12 = 4,820,252$ penguins
3. $828,770 \times 0.64 = 530,413$ penguins
4. $22,271,000 \times 0.08 = 1,781,680$ penguins
5. $p \times 0.30 = 2,612,700$
 $p = 2,612,700 \div 0.30 = 8,709,000$ penguins

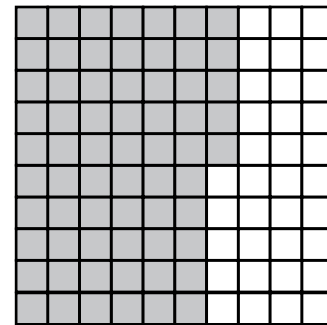
Modeling Percents

1. See grid below.
2. 38%
- 3A. $2 \div 18 = 0.11 \times 100 = 11\%$
- 3B. See grid below.
- 3C. 89%; See grid below.

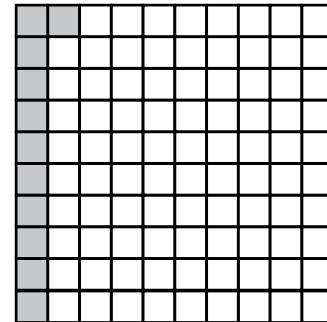
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- A.
1. D, is all of the above
2. $97,221 \times 0.9767 = 94,956$ penguins
- B.
1. $292,390 \times 0.00009 = 26.31 \approx 27$ nests

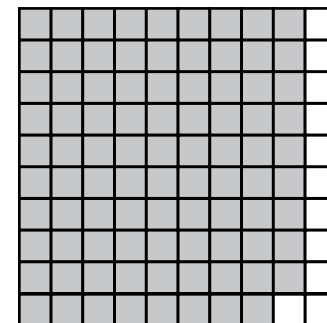
1.



3A.



3B.



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BIG GAME BIG CITY SKILL BUILDERS

Game Day Data

1. Team
2. 53 total dots; This represents the number of Super Bowls that have taken place.
3. See dot plot below.
4. 2 times
5. Answers will vary. Please accept all reasonable answers. Possible answer: The New England Patriots have 3 times the number of Super Bowl wins as compared to the Miami Dolphins.

Clusters and Outliers

1. Clusters: 65-75, 90-100
Outliers: 45
2. Clusters: 45-50, 65-70
Outliers: 30, 90
3. Clusters: 1-4
Outliers: 7

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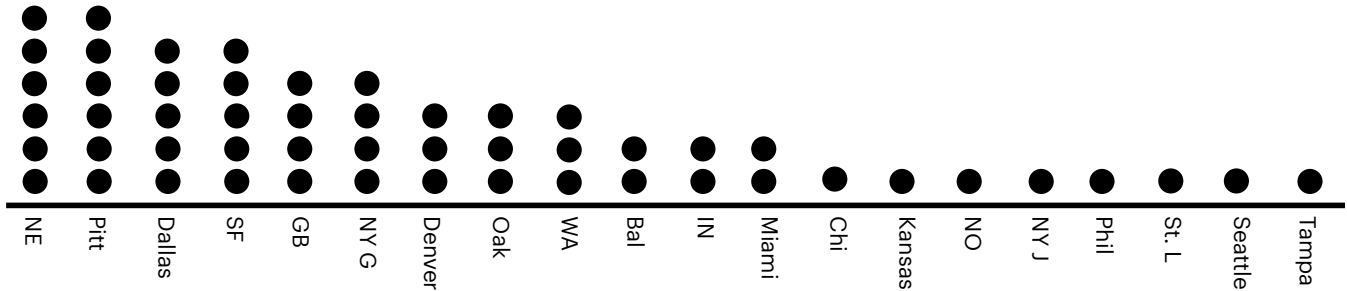
A.

1. 31 students
2. 93
3. 21 students

B.

1. See dot plot below.
2. 83
3. $(77 + 77 + 78 + 80 + 80 + 80 + 80 + 81 + 81 + 82 + 82 + 83 + 83 + 83 + 83 + 83 + 84 + 84 + 84 + 85 + 85 + 85 + 85 + 86 + 86 + 89 + 89 + 89) \div 28 = 2,327 \div 28 = 83.1 \approx 83$

Number of Super Bowl Wins by Team



Test Scores in Mr. E's Class

